

# WESTERN INDUSTRY



\* The rising tide of ship repair on the West Coast keeps boring mills (one is shown above) and other heavy equipment busy.

Twenty-five Cents

VOLUME X

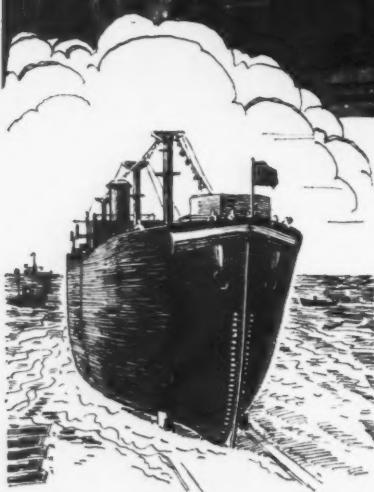
NUMBER 5

May, 1945

# They launched a thousand ships



*At the launching plate—photo courtesy Marinship Corporation, Sausalito, California*



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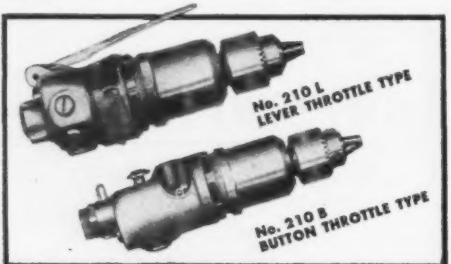
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## EDITORIAL COMMENT

### Stop, Look, and Listen!

WHEN there arose in Egypt a Pharaoh "who knew not Joseph," the troubles of the Israelites began. Likewise, the people who, at some later date, invoke in a labor dispute the industrial peace pledge just signed by Eric Johnston, William Green and Phillip Murray, may not know or care just what these worthy gentlemen had in mind. Consequently industry may find itself with a yoke on its neck if it blindly follows Eric Johnston's lead.

While most of the document is as harmless as a weather discussion, Article 4 contains some cold type that may bind industry to "peace where there is no peace." Article 4 says, "The fundamental rights of labor to organize and to engage in collective bargaining with management shall be recognized and preserved, free from legislative enactments which would interfere with or discourage these objectives."

But does this mean that no interference with labor will be brooked? Does it legalize secondary boycotts and "hot" cargo, make a picket line sacrosanct and write into the law of the land numerous other union practices? In short, does it leave management any opportunity for self-protection? Questions like these must be answered satisfactorily before industry will be safe in endorsing a specific pledge. Justice, not bad bargains, is what creates industrial peace. Let us hope that industry in the West has no more Enthusiastic Erics to sign a lot of fine print without reading it.

### Without Coordination, Planning Perishes

WITHOUT coordination, a logical, unified and active Western front never will be presented at Washington in regard to conversion, surplus plant disposal and the other distinct Western problems that are rapidly becoming ripe for settlement.

On one hand we have the Western States Council, endeavoring to unite industry and the chambers of commerce in an approach to these questions. On the other we have the Western governors seeking to take the lead. Thirdly, there are the commissions on interstate cooperation of the state legislatures, who first put the Western steel problem into the limelight at the Carson City conference a year ago.

Each group is acting separately, but unexpectedly early termination of the war is likely to precipitate immediate need for unified action. Plans for getting all the groups together should be "musts" with each organization.

### He Knows the West Exists

J. N. A. KRUG, the new chairman of the War Production Board, has at last been found a Washington bureau head who treats the West as part of the United States. Our March editorial lumping him with James F. Byrnes, Donald Nelson, Charles E. Wilson, Paul McNutt and others who administered wartime operations in the West by remote control, did Mr. Krug an injustice. He already has made three trips to the Pacific Coast since becoming WPB chairman—more visits than all the rest of them put together—and has gotten down to the heart of things each time. President Truman, give us more "Cap" Krugs!

# WESTERN INDUSTRY

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### OUR COVER PICTURE

A mere trifle of \$2½ billion is the total wartime investment in new industrial facilities in the West. Inevitably it will make a tremendous foundation for peace-time industry, and there are plenty of signs that Western industrialists are wide awake to their future opportunities. The cover shows a boring mill in operation at General Engineering & Drydock Co., Alameda.



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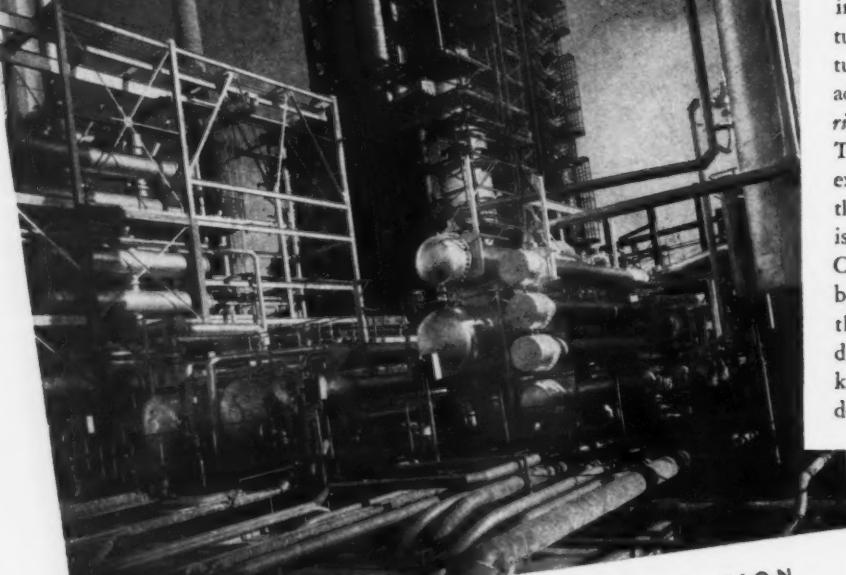
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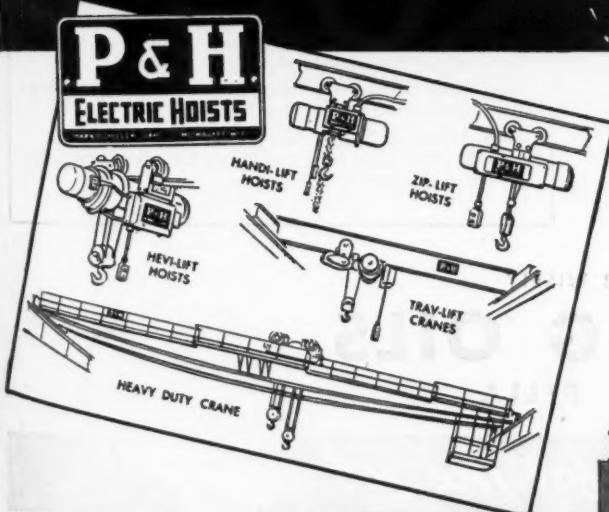
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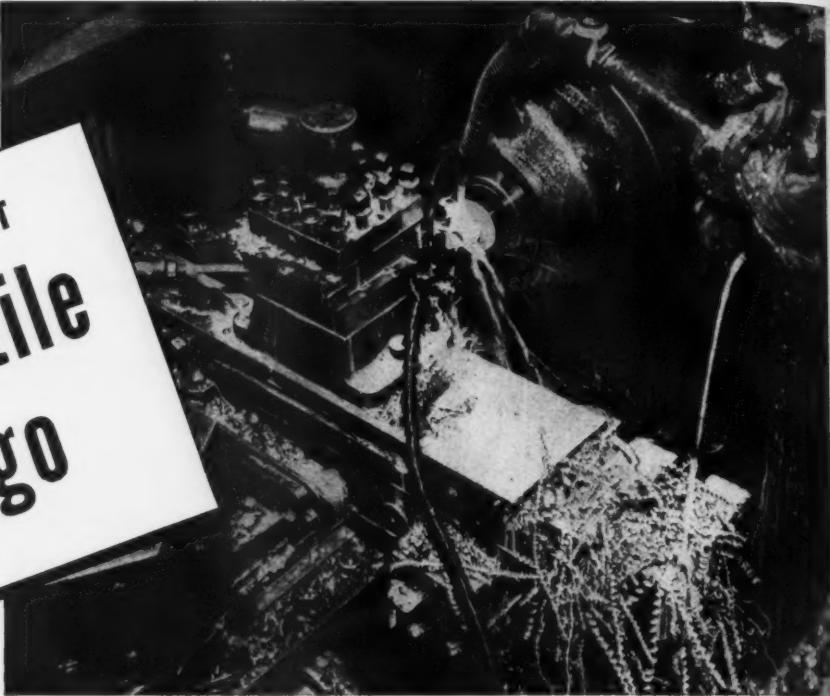
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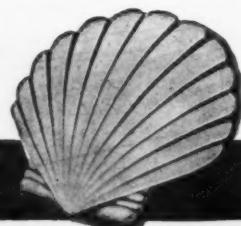
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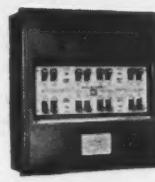
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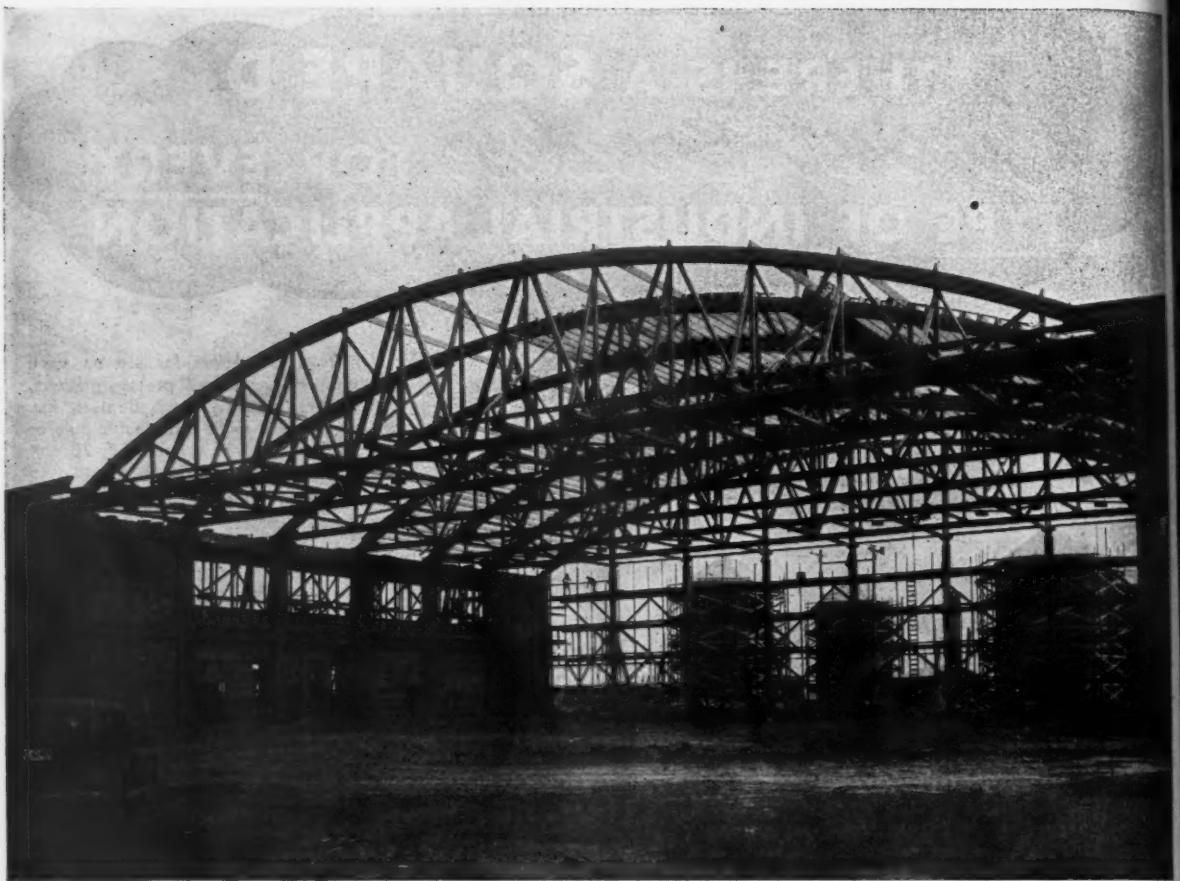
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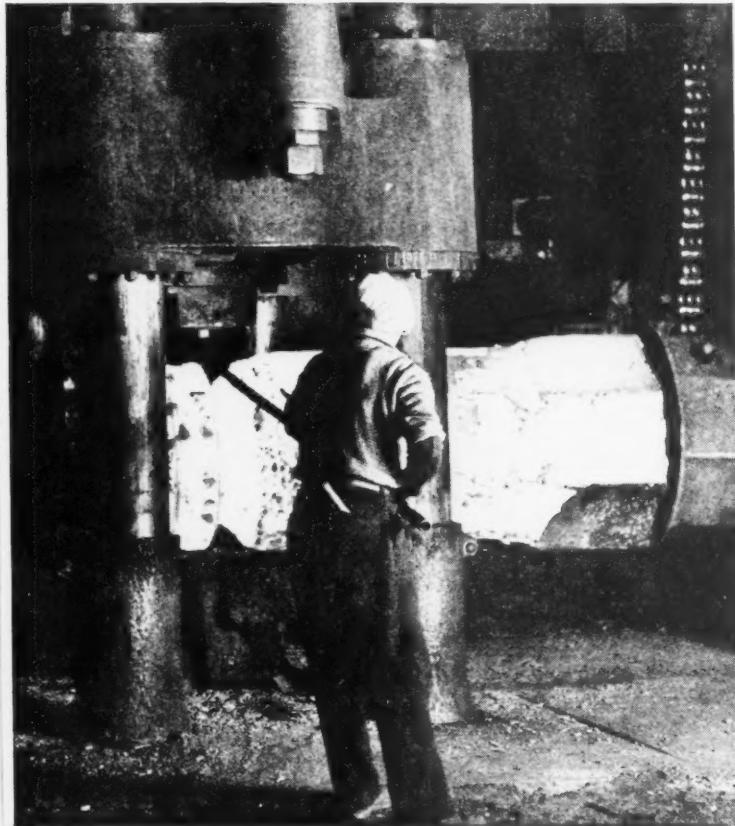


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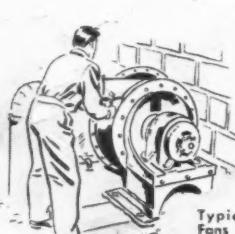
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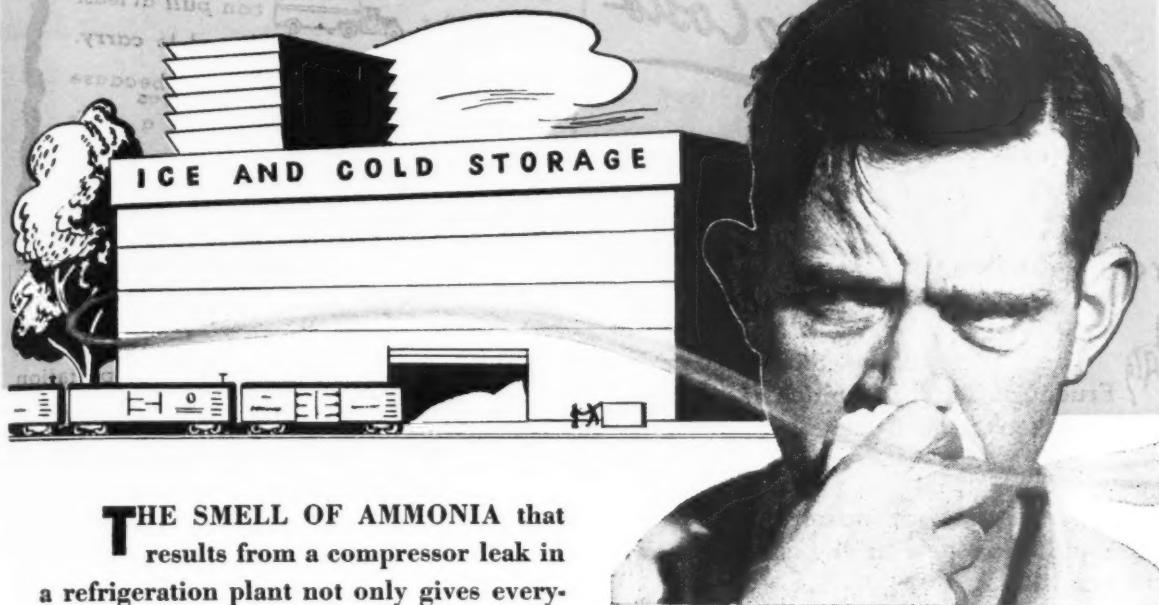
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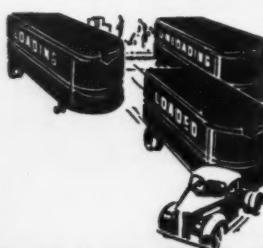
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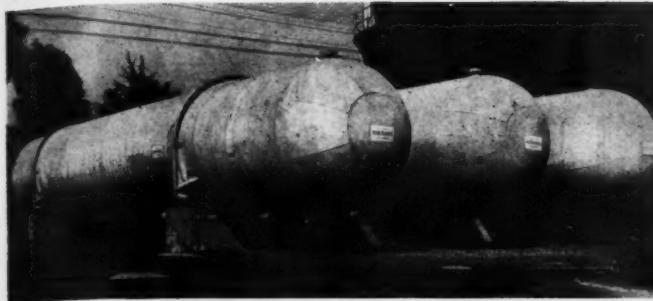
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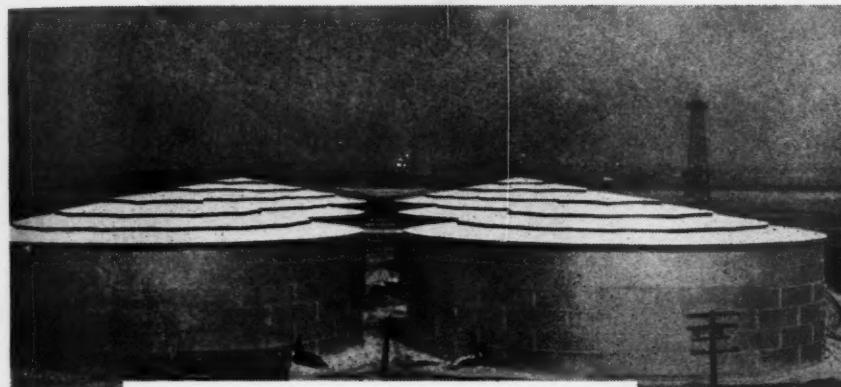
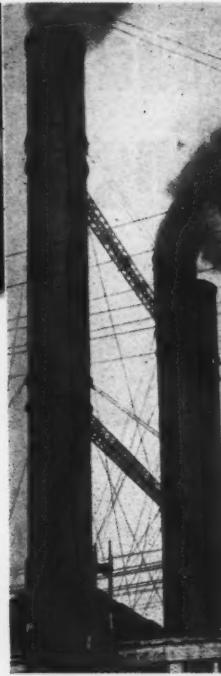
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"ENGINEERED TRANSPORTATION"

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The fabrication of industrial plant projects by the Western Pipe and Steel Company includes the manufacture of a wide variety of products. For example, you will find steel pipe and tanks, hoppers, steel forms, together with pressure vessels...for mills and essential ferrous and non-ferrous industries.

Highly specialized steel products are fabricated for railroads, public utilities, and general industries. For the chemical and oil industry, Western Pipe and Steel Company produces all types of steel equipment, even to complete plant units.

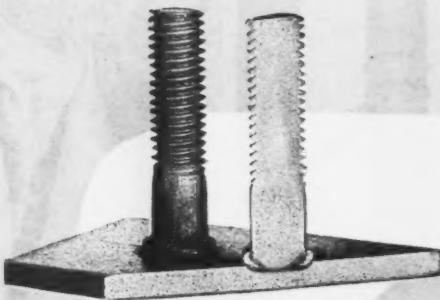
Whatever your plans, Western Pipe and Steel Company's forty years of "know how" service can be useful to you. We will be glad to discuss it at your convenience.

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# Nelson Stud Welding eliminates stud drilling and tapping!



*Cutaway view of end-welded stud shows how stud is completely fused with metal in  $\frac{1}{2}$  second.*



*Photographs by courtesy of Herbert H. Davis Co., Cicero, Ill.*



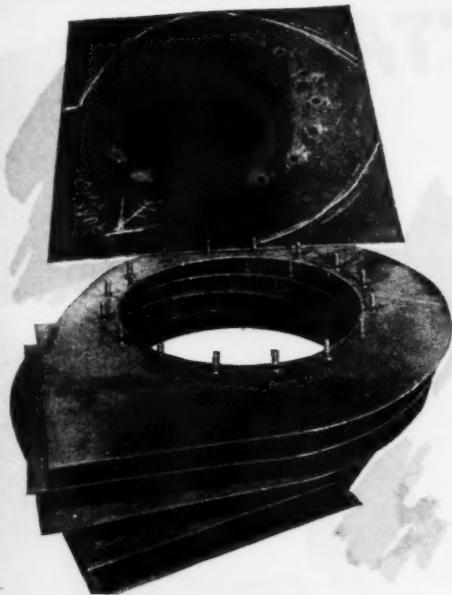
**Welding studs through template** produces accurate duplication of parts. Studs are welded through guiding template to work underneath. The operator loads a stud into the gun chuck, inserts it into the hole and pulls the trigger. Welds are automatically made in an instant.

The Nelson Arc Stud Welder saves time and material because it secures studs without drilling and tapping holes. The manufacturing of air-conditioning equipment and industrial furnaces at the H. H. Davis Co. is a fine example of a typical industrial application.

The welds made with Nelson studs result in uniform work with *complete fusion* between stud and metal. Thousands are now being used by more than 650 industrial plants and shipyards. Operators can average 500 to 1000 stud welds in eight hours.

Nelson Stud Welders are fully automatic and are completely portable . . . they may be operated as a production unit or as a portable hand tool.





**A template is used** in welding studs to parts. Studs are welded through holes onto casing, insuring accuracy of spacing. Nelson Production Stud Welding Units, welders mounted on pneumatic cylinders and arbors, are also used where continuous production of parts is required.



**Inspection plates of all kinds** are welded in any position with the portable Nelson welder. Light in weight and easy to handle, it may be used efficiently in any location. Welds produced are as strong as any hand-welding method—have consistent weld fillets.



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**Welding inspection door** on industrial furnace through template. All arc timing is automatically controlled, producing consistent welds. Write today for catalog and complete details.



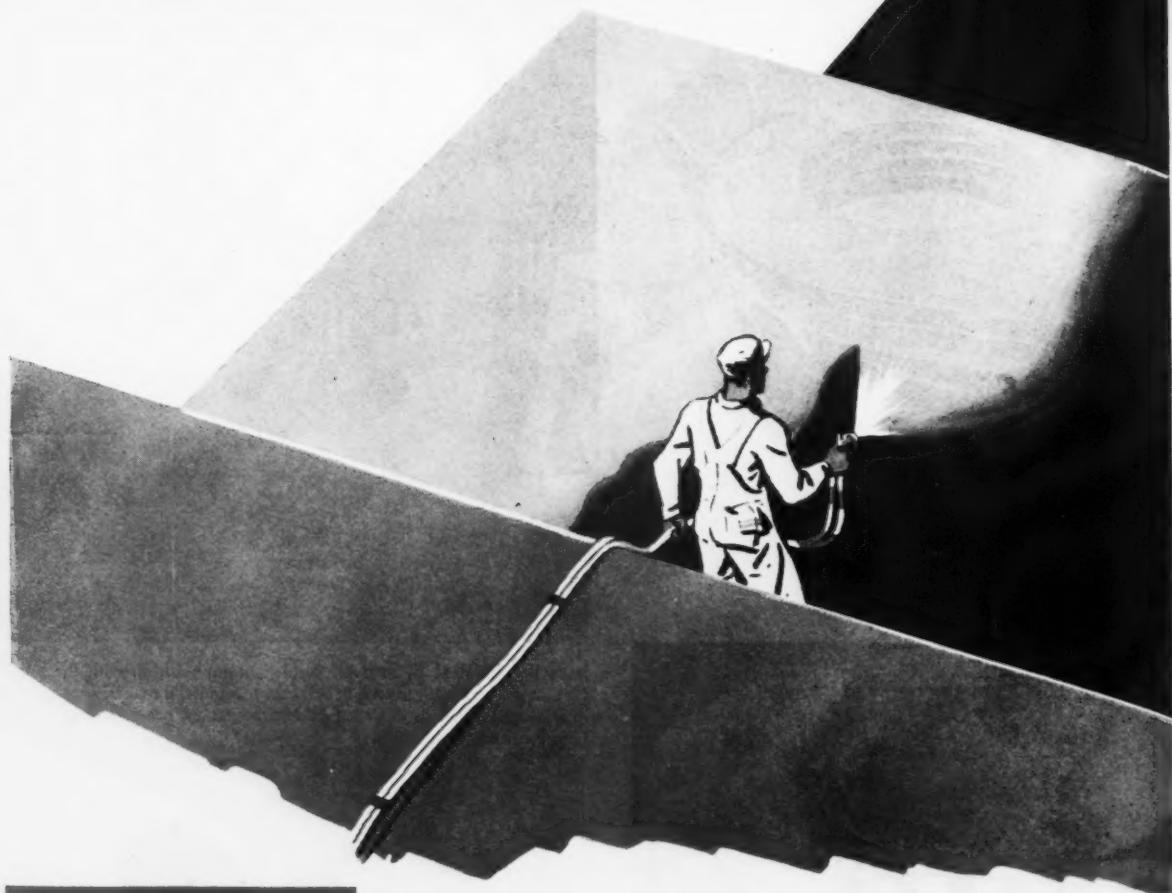
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WELDING EQUIPMENT CORP.**

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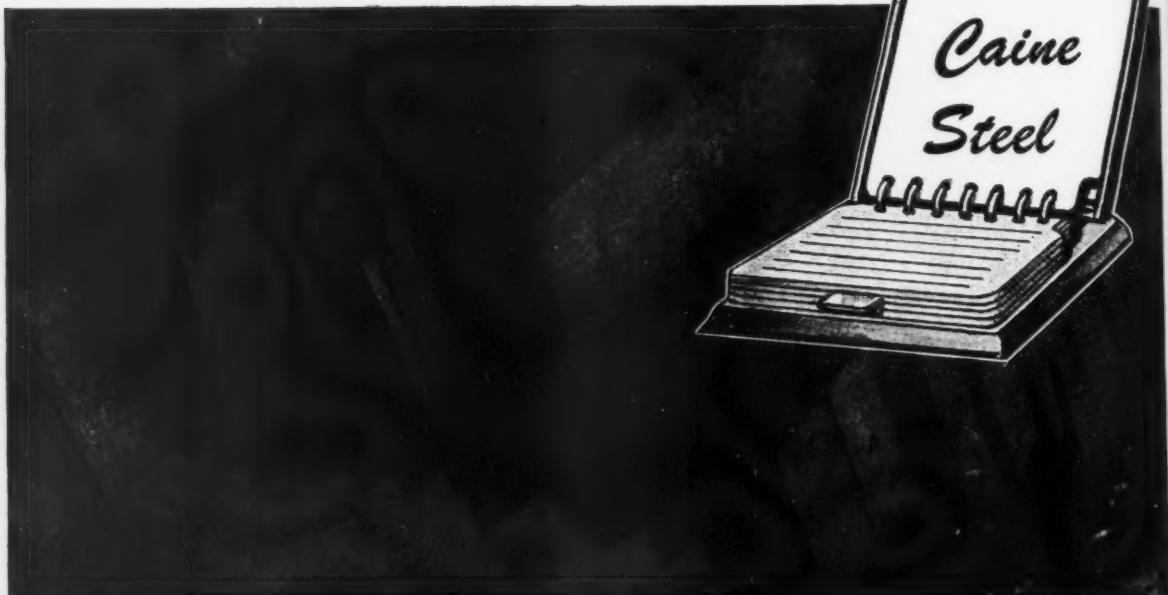
Specify Caladium to be used over *all* types of surfaces to prevent bleeding or to deflect the heat rays of the sun. Caladium provides a flexible, super tough, decorative coating that assures greater weather resistance, longer life.

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**60 YEARS OF EXPERIENCE**  
**BUILT INTO IT!"**

*"How do you figure that, Joe? A-c welders haven't been built that long."*

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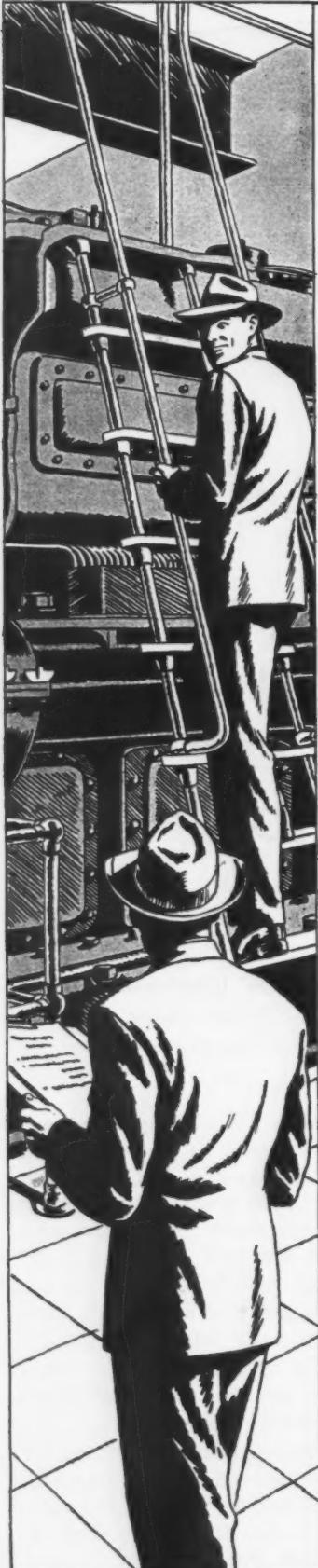
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SPECIALIZED INDUSTRIAL  
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still depends on you

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## ***...and the goods of Peace!***

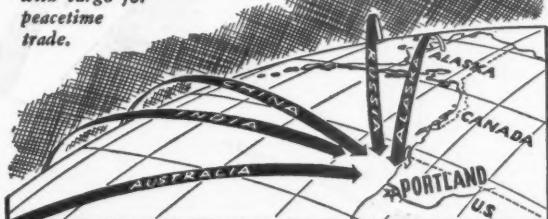
For two decades before the war, countless ships put in at Commercial Iron Works for a thousand and one repairs. Since the war, well over 175 ships built and equipped at Commercial Iron Works have landed at ports and on beachheads around the globe—many under heavy enemy fire—carrying precious fighting cargoes

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Whether it's ships for the world's greatest navy...or peacetime equipment for the world's greatest nation... Commercial Iron Works *know how*...delivers the goods!

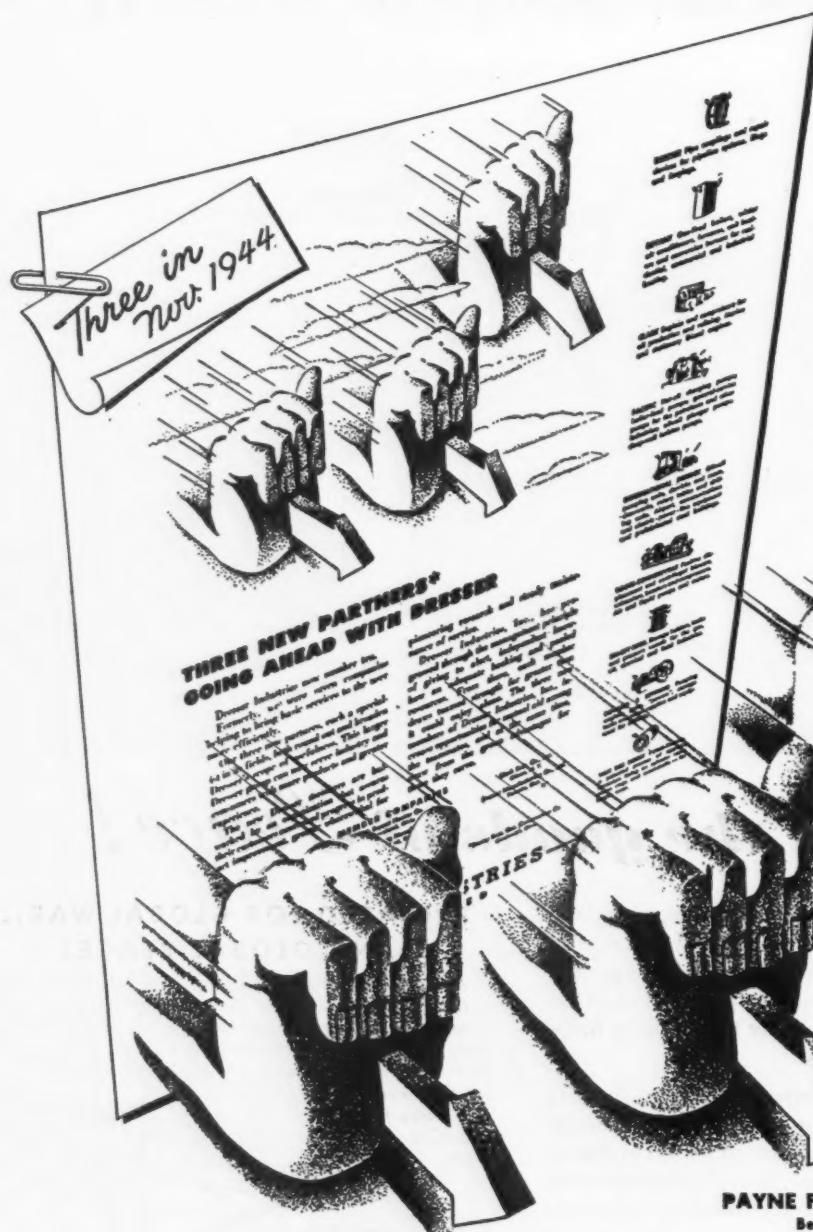
### **PREPARED FOR GLOBAL WAR... AND GLOBAL PEACE!**

Commercial Iron Works is strategically located to serve by rail, truck and water the Pacific Northwest's vast inland empire, as well as the incalculable postwar markets of South America, Alaska and the Far East. Ships now leaving CIW dockside enroute to ocean warfare, will sail throughout the postwar world, laden with cargo for peacetime trade.



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Dresser Industries continues its growth toward more efficient, more comprehensive service to customers. Three new partners now enlarge our scope of usefulness to the gas and oil industries.

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Dresser Industries is now a team of thirteen companies pooling their resources for better products, better service to their customers.

Dresser Industries, Inc.

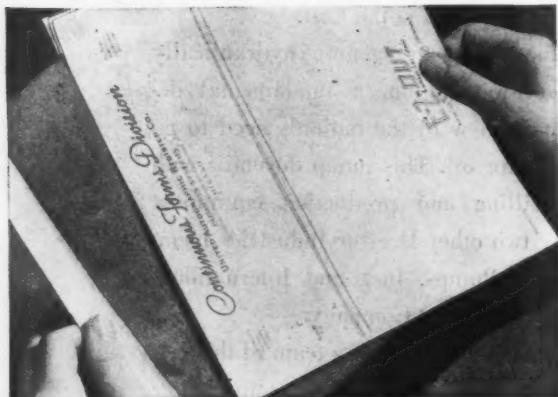
Terminal Tower, Cleveland 13, Ohio

# "Liar!"



Eight hours of productive work. That's what time cards indicate. It's the kind of service good employees try to give. But they know, even if the boss does not, that time clocks lie.

A time clock, you see, doesn't record *wasted time*. And in many a business today, employees are forced to waste time because they are using inefficient forms—forms that fail in their primary function of getting the right information to the right people in the fastest possible way. It's easy to overlook that function because forms are so often regarded as "mere routine."



Uarco has devoted more than 50 years of thought and effort to the job of making forms work faster. We've devised ingenious ways of combining paper and carbons to save from 17% to 78% of form-handling time. We've invented entirely new forms to cut down the time-lag in *every* business operation where forms are used.

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WHY A

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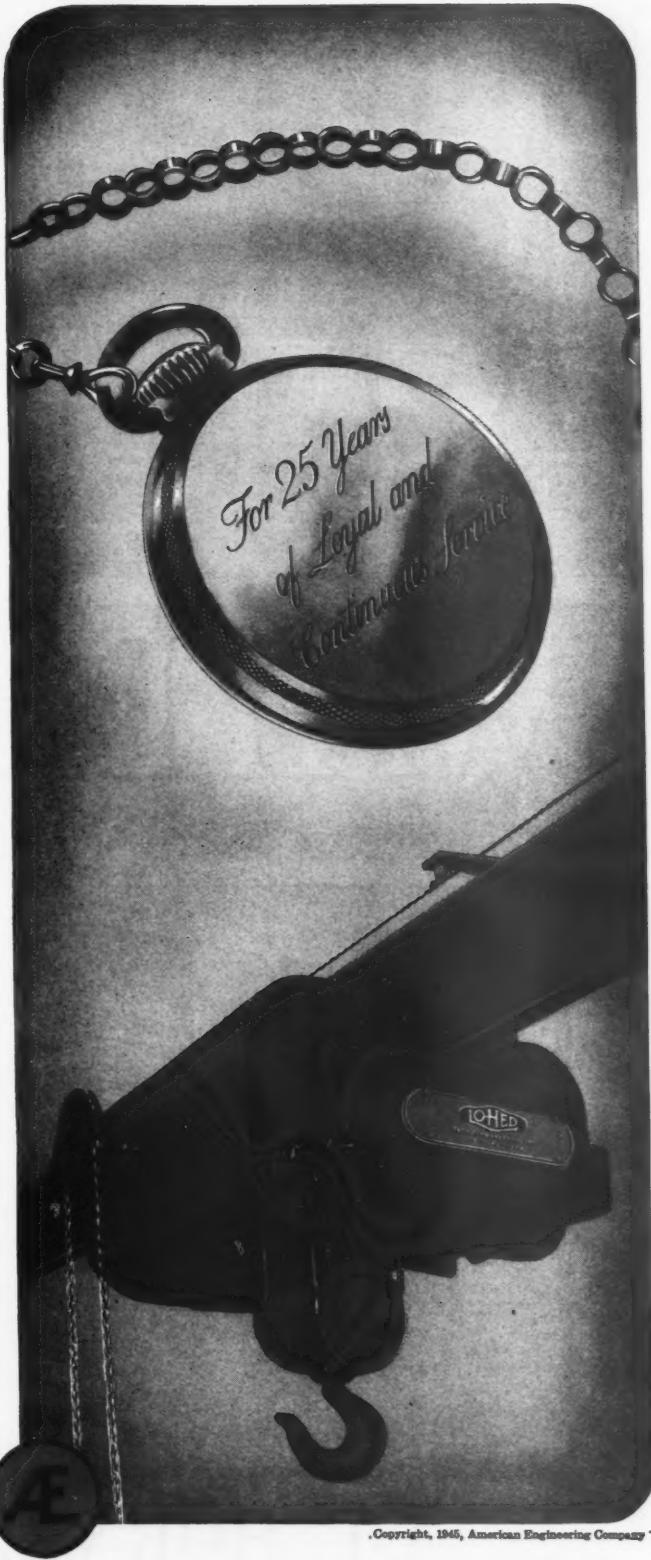
## IS LIKE A CERTAIN VETERAN EMPLOYEE YOU KNOW

SOMEWHERE in your plant there is a certain fellow you hired years ago. He's the kind of guy you seldom hear about because he does his job day in, day out, year in, year out. He doesn't talk much. Never gets hauled "on the carpet." In fact, as you hand him the gold watch for service you hardly realize 25 years have rolled around since the day he applied for the job. A Lo-Hed Electric Hoist is *that* kind of hoist. You put it to work. It does its job year in and year out. It's seldom in trouble or out "sick." Years pass before you realize your Lo-Hed is a plant "veteran." When you hire an employee, you're mighty glad when he turns out to be one you'll want for keeps. That's the way it is with a Lo-Hed. Ask anyone who uses a Lo-Hed.

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DO THE JOB NOW!**

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The Horn Research laboratories, after ten years of scientific and field tests, developed Waterfoil, manufactured of irreversible inorganic gels.

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**THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES**

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These gels bond chemically and mechanically to masonry to form a dense hard coating which lets the masonry breathe as it should, but helps impede water penetration to prevent reinforcing bar rust and spalling.

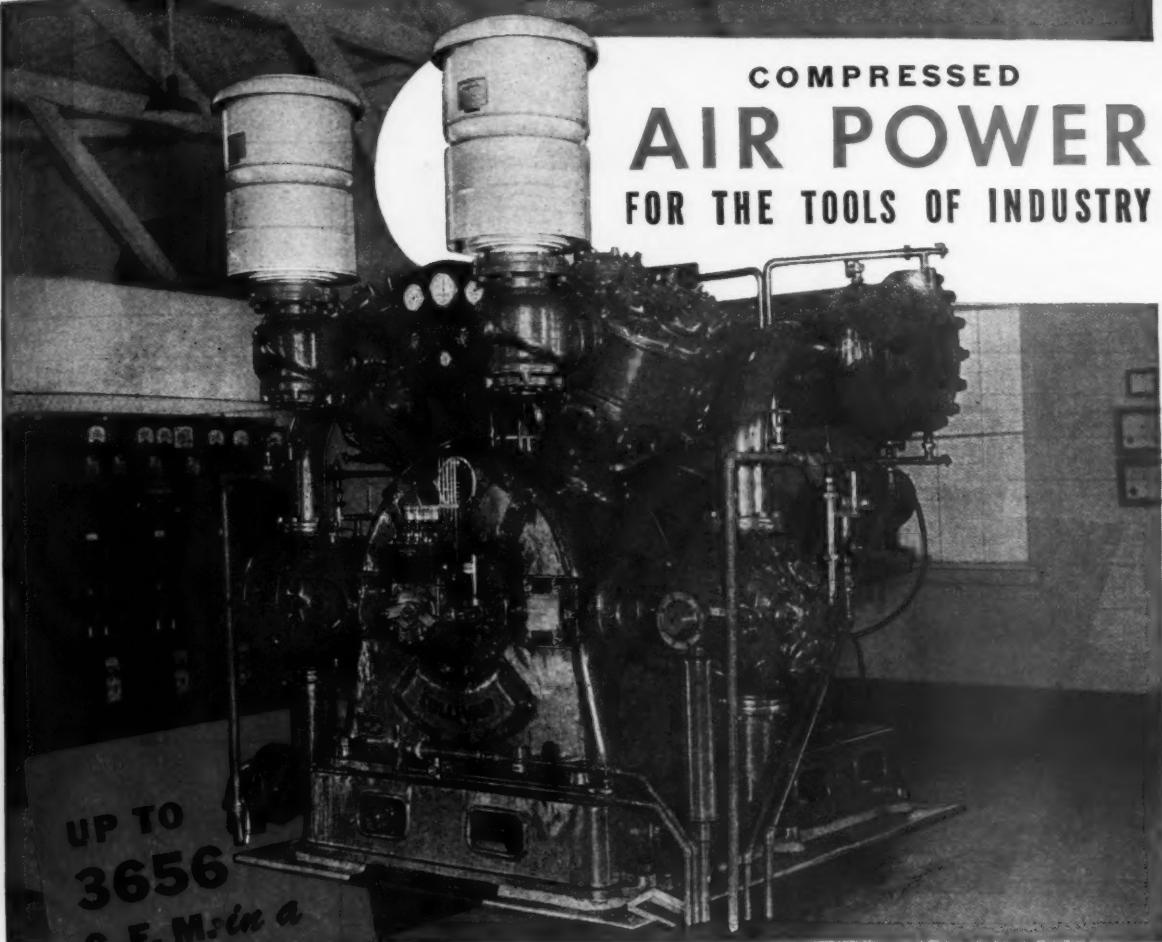
Waterfoil is free from oil, cement, lime, casein or glue. It is unlike any other masonry treatment and has a true scientific basis for its formulation. Send today for the Waterfoil literature. It's important.



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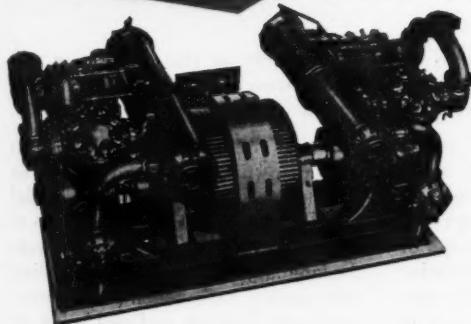
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**AIR POWER**  
FOR THE TOOLS OF INDUSTRY

UP TO  
**3656**  
C. F. M. in a  
**TWIN!**



Sullivan Series 100 compressors are available in two and four cylinder models and in single and twin units. Capacities from 378 to 3656 c.f.m.

*with a* **SULLIVAN**  
**HEAVY-DUTY WN-114 COMPRESSOR**

Install it, start it,—then forget it! That's what you can do with Sullivan compressed-air power units, because they are built to give constant, dependable service 24 hours a day, year in and year out.

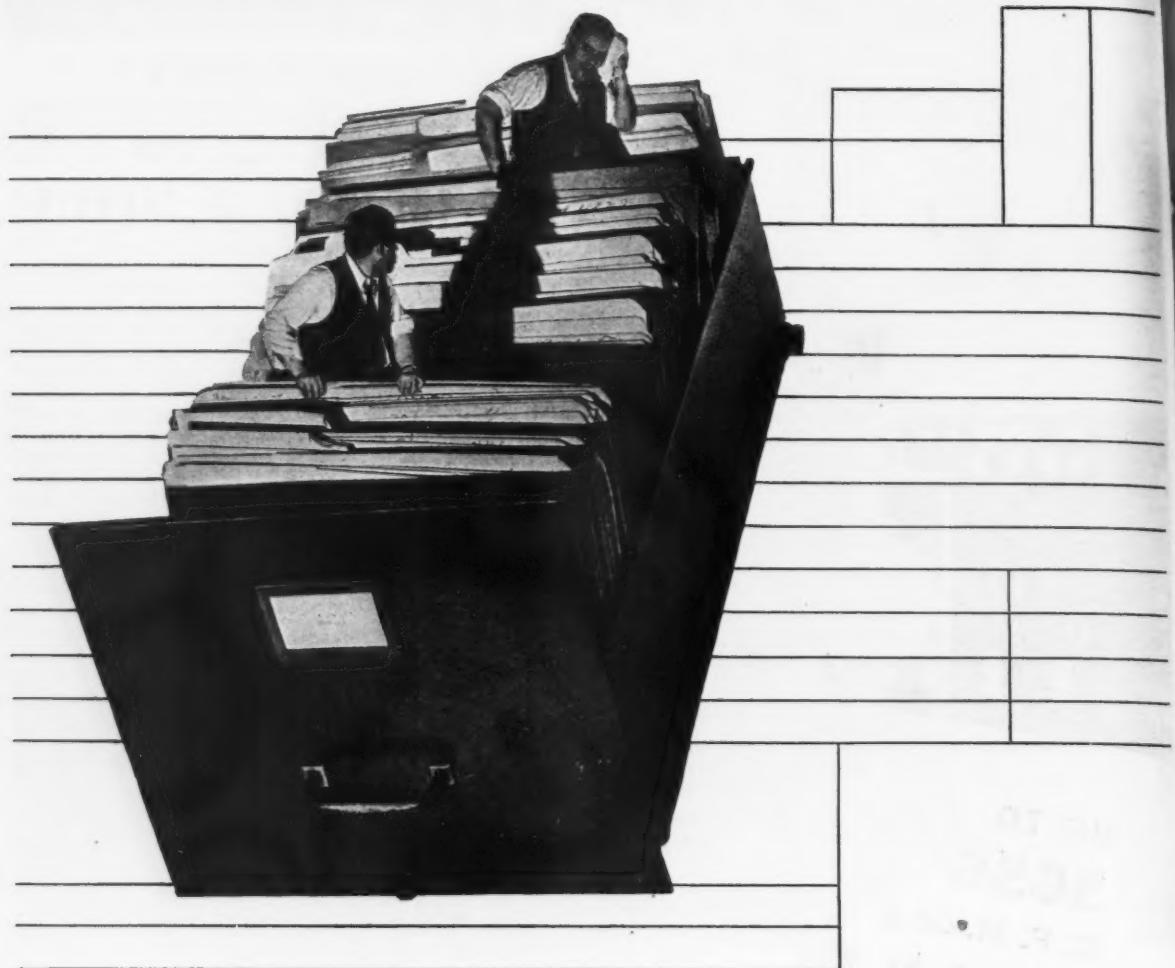
Sullivan Series 100 air compressors are two-stage, double-acting, heavy duty, continuous service compressors, much smaller than old style compressors of the same capacity and yet have operating economies exceeding those of the older, bulky units of the same capacity. *Sullivan Machinery Company, Michigan City, Indiana. IN CANADA: Canadian Sullivan Machinery Co., Ltd., Dundas, Ontario.*

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**MOORE BUSINESS FORMS, INC.**

ADV. BY R. W. AYER



The cutting tool of a planer *works* only on its forward thrust, *loafs* on its return trip—thus wastes time. But we had to save time—so we built this "merry-go-round." It is a special fixture for a giant boring mill, which permits continuous cutting and machines 16 valve-assembly link bars for marine engines at one time.

Through many such unusual methods we have been able to build the power that drives one-fourth of all the cargo ships built in this

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Joshua Hendy ingenuity in design and skill in manufacture are resulting in the mass production of ever-finer power equipment including turbines, turbo-generators, and Diesels. Our nearest office will welcome your inquiry. Write to Sunnyvale for a copy of our booklet, *This is Hendy*, now on the press.

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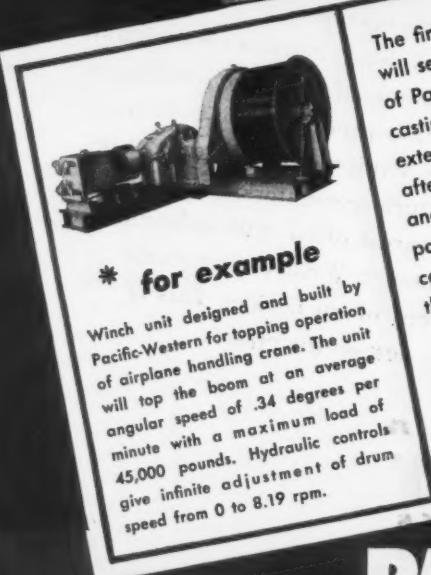
TURBO-GENERATORS

REDUCTION GEARS

STEAM TURBINES

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# How PACIFIC-WESTERN Inspection Department serves the MARINE INDUSTRY



## \* for example

Winch unit designed and built by Pacific-Western for topping operation of airplane handling crane. The unit will top the boom at an average angular speed of .34 degrees per minute with a maximum load of 45,000 pounds. Hydraulic controls give infinite adjustment of drum speed from 0 to 8.19 rpm.

The final O.K. — the decision that a gear or a machine will serve you well and continuously is the responsibility of Pacific-Western Inspectors. They regularly test rough castings, forgings, and other materials for internal and external soundness — then every part is checked again after each operation such as turning, grinding, cutting and heat treating. Thus Pacific-Western Inspection Departments serve the Marine Industry by eliminating the causes of breakdowns and failures before they reach the field — saving you time and money.

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Pacific-Western standard gear reducers are available for ratios from 2:1 to 300:1, and for transmitting from fractional horsepower up to 700 hp. Technically trained gearing specialists are at your service in each of our plants for designing special applications of gear reducer units on ships' cranes, capstans, hoists, propulsion drives and all types of marine gear. Phone or write our nearest office for engineering service.

ILLUSTRATION SHOWS  
Inspector in Western Gear plant checking gear shown on table for tooth form, dimension, and finish on optical comparator.

# PACIFIC WESTERN GEAR PRODUCTS



# Spotlight on the NEWS

WESTERN INDUSTRY  
FOR MAY, 1945

VOLUME X

NUMBER 5

## Stop, Look, and Listen!

Eric Johnston of Spokane, now a voice for industry by virtue of his position as president of the U. S. Chamber of Commerce, turned the news spotlight on himself when he signed an industrial peace pledge with presidents Green of the AFL and Murray of the CIO. By many it is hailed as a bright promise for the future, of a new era of good feeling. But *Western Industry* believes that (page 5) industrialists should "stop, look, and listen" before going off the deep end in support of a pledge that may leave them powerless to prevent unjust union encroachments.

## West's Postwar Pattern

The high school in Redlands, California, once had a principal (later assistant superintendent of schools in San Jose and Oakland) whose favorite prelude to attacking a physics problem was the remark, "Let us proceed to ascertain by finding out." So the Federal Reserve Bank decided to "ascertain by finding out" how many people the manufacturers in the Pacific Coast states will employ after the war, and where they will get the money with which to carry on. "Worriers about the West" will groan or gloat over the abysmal drop in the shipbuilding and aircraft industries that they found, but of far more importance is the fact that every industry will be ahead of 1939 (pages 37-39) and the majority of them ahead of 1943. The relative ranking of these industries is another highly interesting study also portrayed by the Bank.

## Industry Too Timid?

Instead of industry being a bold, bad wolf, ferociously seeking to devour the United States Treasury, the government's reviewing authorities in termination proceedings are finding that war contractors are not asking for all the money to which they are entitled (pages 40-41). The government's termination policy is to see that no contractor loses money on the deal,

provided he is sufficiently intelligent to put in an adequate claim. How to get ready for termination is told in an accompanying series of questions.

## Losses and Gains

The first cutbacks in Army ordnance are not hard to take (page 46) and other war contracts may take their place. Shipyard employment figures on the same page indicate that the rising tide of repair work may offset in large measure the drop caused by the rapidly dwindling amount of new ship construction. The war in the Pacific has not been won yet, and industrial facilities are not likely to stand idle for a long time yet.

## It's Hard to Pronounce

Catalytic cracking are the two simplest of the hard words the petroleum industry has thrown at the long-suffering public in this war. The greater the advance in oil refining, the tougher the words describing it. So we respectfully refer our readers to the brief report of Tide Water Associated's new 100-octane plant (page 43) and pass on to simpler subjects.

## Aluminum Comes to Bat

Aluminum is the next Western problem that the Western States Council will tackle. An aluminum conference has been scheduled for June 21-22 at Seattle (page 42). Some light on the trend of discussion that may be expected at this meeting will be found in the accompanying report of testimony before a Congressional committee at Washington.

## A Busy War Area

In the Rocky Mountain region the manpower problem in war production has not yet reached its peak, but will be there very soon (page 45) in contrast to the Pacific Coast, where the worst seems to be over.

## Mind Makes Machines Go

After all, industries are operated by men; machines are just the extension of what man does with his hands and his head. Consequently personnel departments are just as important, if not more so, than operating departments. In fact, personnel work is a production factor (page 44), and requires flow sheets and operating layouts just as much as the mechanical units.

## Pays to Keep Quiet

Sound conditioning once was on the basis of merely relief from noise; now it is becoming a matter of increased production. Various Western firms that sound conditioned their offices for the sake of comfort have found that it increases efficiency considerably (page 47), and application of the same treatment to the shop has paid dividends there. The article is one of a series on the general subject of maintenance.

## Materials Handling

Coal mines in the Rocky Mountain area have not been very much in the spotlight for labor trouble in recent years, and perhaps one of the main reasons is that they have gone in for mechanization on such a scale that they can pay better wages for easier work. An example of the substitution of machinery for hard physical labor is given from one of Utah's mines (page 49).

## Once Again, We Need Unity

As the reconversion hour draws nearer, the need for a real Western program at Washington becomes more evident than ever. Our Washington editor points out once more how the West is bound to suffer if some unified program is not worked out (page 50). The need for the industrial, commercial and governmental groups to pool some of their plans is also stressed editorially (page 5). Some day it will come; in fact it will have to. The big danger is that we will realize it too late to save the West from losing many things in the postwar shuffle at Washington.



# STANDARD ENGINEERS NOTEBOOK

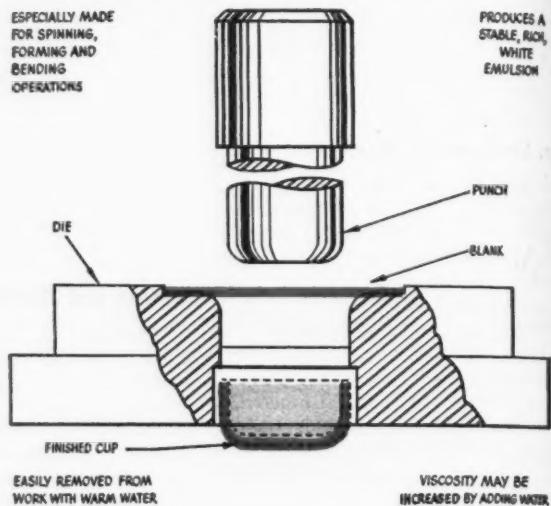
## Heavy-bodied soluble oil cuts metal-working costs

The use of Calol Soluble Oil H. V. eliminates the expensive de-greasing process in metal-forming, aluminum-spinning and tube-bending operations, because it is easily removed from finished parts by plain water warmed to a temperature of 90° F. or above.

Especially made for these operations, Calol Soluble Oil H. V. has a viscosity considerably higher than ordinary soluble oils. Its viscosity can be still further increased for a particular operation by adding a slight amount of water. With addition of more water, Calol Soluble Oil H. V. forms a rich, white emulsion that is exceptionally stable.

This product is not for use in milling machines, lathes and other machining tools. When soluble oil is required on such machines, Calol Soluble Oil or Calol Soluble Oil E. P. is recommended. There is a Standard of California Product for every metal-working operation.

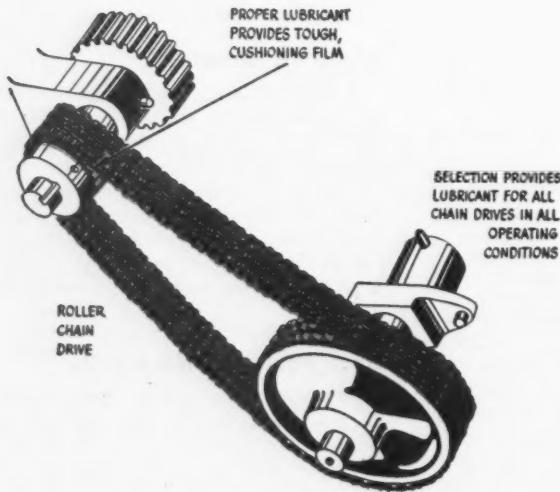
ESPECIALLY MADE  
FOR SPINNING,  
FORMING AND  
BENDING  
OPERATIONS



PRODUCES A  
STABLE, RICH,  
WHITE  
EMULSION

VISCOSITY MAY BE  
INCREASED BY ADDING WATER

## Correct lubricant reduces chain drive wear



Selection of the proper Calol lubricant for any type chain drive will materially reduce wear even under the most adverse conditions.

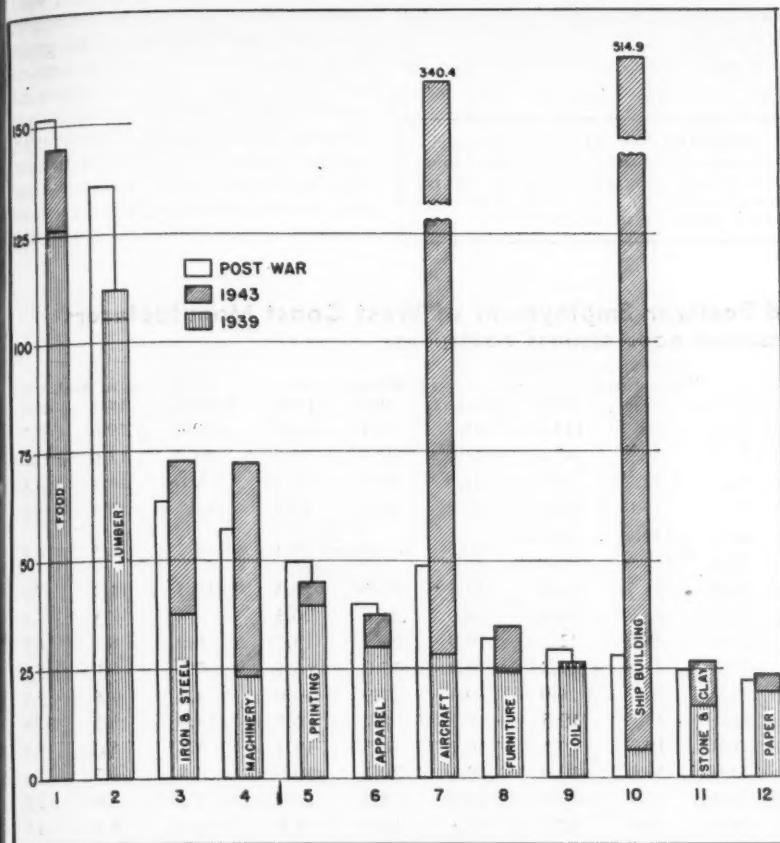
On a worm or exposed roller and block chain, Calol Pinion Grease—O is recommended for high operating temperature, Calol Roller Oil—X for medium and Calol Journal Oil—135 for low. For enclosed chains of this type, Calol Journal Oil—165, —135 and —35.

For chains exposed to pitch, resinous materials, etc., special Calol Drier Chain Oil is recommended.

Recommendations for silent chain drives are as follows: Worn, exposed chains: Calol Roller Oil—X, high temperature; Calol Journal Oil—135, medium temperature; Calol Journal Oil—35, low temperature. New, exposed chains or oil-bath-lubricated encased chains: Calol Journal Oil—135, —35 and —25. Splash-lubricated, encased chains: Calol Journal Oil—35, —25 and —14.

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

STANDARD OF CALIFORNIA



#### THE 12 LEADING POSTWAR MANUFACTURING INDUSTRIES OF PACIFIC COAST

Ranked in order of employment, with comparative war and prewar employment

(Amounts in thousands)

	1939	1943	Postwar
1. Food	125.5	144.8	151.9
2. Lumber, timber	111.9	105.7	136.1
3. Iron and steel	37.5	73.0	63.5
4. Machinery	23.5	72.7	52.3
5. Printing, publishing	39.8	45.0	49.7
6. Aircraft	28.2	340.4	48.7
7. Apparel	30.1	37.3	40.0
8. Furniture	24.2	34.7	31.9
9. Petroleum and coal	26.6	25.9	29.3
10. Ship-bldg., repairing	6.5	514.9	28.0
11. Stone, clay, glass	16.9	26.7	24.9
12. Paper	19.5	22.7	22.2

industry, except shipbuilding and aircraft, will have more people on its payroll than in 1939, and about half of them more than in 1943. Losses from 1943, with a few exceptions, will not be great.

As would naturally be expected, the mushroom wartime aircraft and shipbuilding operations will shrivel to such a small fraction of their peak size that there will be about 50 per cent less employed in manufacturing industries than in 1943, or a total of 780,000 persons, under good general business conditions, compared with 1,588,900 in 1943. This would be about 40 per cent less than were employed in 1939, but 50 per cent less than the wartime peak of 1943. Manufacturers' intentions under poor business conditions indicate employment of some 500,000 persons, about 65 per cent of the 780,000 estimate for good conditions.

Actually this recession from 1943 is not the startling calamity that has been so freely predicted by some "worriers about the West," because employment already has decreased about 200,000 since the 1943 peak without much unemployment resulting. In other words, the surplus has either left the area, to go back to farms or old jobs elsewhere in the country, or has retired from the labor force altogether, as in the case of many women and retired men who accepted emergency employment.

Decreasing shipyard employment through 1945 will close up the gap still further between the wartime peak and the postwar level. The fact that aircraft production probably will continue at present

## Postwar Pattern of West Coast Industry

**A**PATTERN of manufacturing in the three Pacific Coast states after the war has been revealed in the study conducted by the Federal Reserve Bank of San Francisco in cooperation with the Committee for Economic Development, of the postwar intentions of 857 firms. From these reports, estimates for all manufacturing were projected.

Food and kindred products lead the list in employment, with lumber, timber and basic products second; iron, steel and their products third; and machinery (except electrical), fourth.

Aircraft drops into sixth place, falling slightly below printing, publishing and allied industries, while ship and boat building and repairing take tenth place in the list. The comparative rankings in the overall Pacific Coast figures and for California and the Pacific Northwest area are shown in the accompanying tables.

Shipbuilding and aircraft lumped to-

gether will constitute the largest employment group in California, and second in the Pacific Northwest. Far overshadowing all other industries in Oregon and Washington will be lumber and basic timber products, due to the need of replacing depleted stocks in the hands of mills and dealers. After shipbuilding and aircraft combined, machinery will employ the most men, closely followed by canning and preserving.

Estimated postwar outlays indicate that the greatest investment will be in aircraft, which may run as high as \$139 million. Lumber and timber basic products come second with a possible \$80 million, and products of petroleum and coal third with an estimated maximum of \$29 million. The total estimated outlays are a maximum of \$433 million and a minimum of \$291 million.

The most significant thing about the postwar employment estimates is that every

levels through this year will further cushion the transition.

After subtracting the two items, the expected shrinkage of 486,900 from the 1943 peak in shipbuilding and 291,700 in aircraft, from the total manufacturing employment in 1943, the total postwar loss in employment from 1943 is only 28,700.

Industries hoping to use more employees than in 1943 include bakery products; confectionery and related products; miscellaneous food and kindred products; textile mill products; wearing apparel, both men's, boys' women's and children's; lumber

and timber basic products; printing, publishing and allied industries; petroleum and coal products; heating apparatus, enameled sanitary iron ware, and boiler shop products; automobile and automobile equipment.

Employment losses are predicted in aircraft and shipbuilding, on a large scale.

**CORRECTION:** Due to a typographical error, the postwar employment figures on the preceding page appear as "40 per cent less than in 1939." They should have read "MORE than in 1939."

## Prewar, War, and Expected Postwar Employment of West Coast Manufacturers (ASSUMING GOOD BUSINESS CONDITIONS)

Amounts in Thousands

	Pacific Coast			California			Oregon & Wash.		
	Postwar	1943	1939	Postwar	1943	1939	Postwar	1943	1939
Lumber and timber basic products.....	136.1	105.7	111.9	25.7	26.1	24.2	110.4	79.6	87.7
Canning and preserving.....	54.2	56.3	47.6	41.0	42.7	36.0	13.2	13.6	11.6
Machinery, except electrical.....	52.3	72.7	23.5	42.7	59.3	19.2	9.6	13.4	4.3
Printing, publishing, allied industries.....	49.7	45.0	39.8	38.2	34.6	30.6	11.5	10.4	9.2
Aircraft and parts.....	48.7	340.4	28.2	60.5	614.0	28.3	16.2	241.3	6.4
Ship and boat building and repairs.....	28.0	514.9	6.9						
Furniture and finished lumber products....	31.9	34.7	24.2	21.5	23.5	16.3	10.4	11.2	7.9
Products of petroleum and coal*.....	29.3	25.9	26.6	29.0	25.6	26.3	.3	.3	.3
Meat and dairy products.....	28.8	28.6	22.2	19.9	20.2	15.7	8.9	8.4	6.5
Bakery products.....	27.1	23.1	22.2	20.0	17.0	16.4	7.1	6.1	5.8
Stone, clay and glass products.....	24.9	26.7	16.9	20.4	21.9	13.9	4.5	4.8	3.0
Paper and allied products.....	22.2	23.7	19.5	7.6	8.2	6.7	14.6	15.5	12.8
Miscellaneous food and kindred products..	21.8	19.3	19.5	16.1	14.3	14.4	5.7	5.0	5.1
Miscellaneous iron and steel products.....	20.9	22.9	12.0	18.4	20.2	10.6	2.5	2.7	1.4
Confectionery, beverages, related products	20.0	17.5	14.0	15.9	13.9	11.1	4.1	3.6	2.9
Household furniture.....	18.2	18.5	12.7	12.3	12.6	8.6	5.9	5.9	4.1
Women's, children's wearing apparel.....	18.2	15.6	14.8	16.6	14.3	13.5	1.6	1.3	1.3
Nonferrous metals and their products.....	17.1	37.0	9.9	(11.8)	26.3	7.4	(5.3)	10.7	2.5
Heating apparatus, enameled iron sanitary ware, and boiler shop products.....	16.7	14.7	8.9	14.4	12.6	7.6	2.3	2.1	1.3
Electrical machinery.....	15.0	24.0	5.6	13.9	22.4	5.2	1.1	1.6	4
Men's and boys' wearing apparel.....	14.5	13.2	9.4	12.0	10.9	7.8	2.5	2.3	1.6
Miscellaneous wood products.....	13.7	16.2	11.5	9.2	10.9	7.7	4.5	5.3	3.8
Automobiles and automobile equipment....	12.3	4.5	8.4	(11.3)	4.1	7.7	(1.0)	.4	.7
Blast furnaces, steel works, rolling mills....	11.1	12.1	6.6	(9.8)	10.5	5.8	(1.3)	1.6	.8
Iron and steel foundry products.....	10.1	18.7	6.0	8.3	15.1	4.9	1.8	3.6	1.1
Rubber products.....	9.4	20.1	6.4	(9.3)	19.9	6.3	(.1)	.2	.1
Miscellaneous manufacturing industries....	9.0	15.0	6.3	(7.2)	11.7	4.9	(1.8)	3.3	1.4
Textile mill products.....	8.3	7.6	8.0	5.6	5.1	5.4	2.7	2.5	2.6
Industrial chemicals.....	7.6	9.1	6.7	6.7	8.1	5.9	.9	1.0	.8
Miscellaneous chemical products.....	7.5	8.3	5.0	6.6	7.4	4.5	.9	.9	.5
Miscellaneous finished textile products....	7.3	8.5	5.9	5.7	6.6	4.6	1.6	1.9	1.3
Leather and leather products.....	5.0	5.1	3.4	4.2	4.3	2.9	.8	.8	.5
Fabricated structural metal products....	4.7	4.6	4.0	4.4	4.2	3.7	.3	.4	.3
Drugs, toilet preparations, insecticides.....	4.4	5.4	2.4	4.0	5.0	2.2	.4	.4	.2
Paints, varnishes and colors.....	3.4	3.7	3.0	3.1	3.3	2.7	.3	.4	.3
Miscellaneous transportation equipment....	2.5	2.5	2.4	(2.0)	2.0	1.9	(.5)	.5	.3
Tobacco manufactures.....	1.6	1.8	1.1	(1.6)	1.8	1.1	....	....	....
Total .....	781.6	1,588.9	558.8	535.4	1,137.1	375.7	246.2	451.8	183.1
Total, excl. ships and aircraft.....	704.9	733.6	524.1	474.9	523.1	347.4	230.0	210.5	176.7

\*Includes oil production, transportation and storage, as well as refining.

Although shipbuilding employment of 515,000 in 1943 includes that of converted prewar manufacturers planning to return to prewar activities, the expected postwar employment of those firms has been included in the other appropriate industries such as iron and steel and machinery. Expected postwar employment of all firms now engaged in shipbuilding is estimated at 40,000. Employment in 1943 of prewar and new shipbuilders was 458,000 and of converted prewar manufacturers was 57,000.

Note: Figures in parentheses based on data from sources other than reports from firms in those industries obtained in the FRB-CED survey.

Other industries with less employment although not great in most cases, are canning and preserving; finished textile products other than wearing apparel; wood products other than household furniture; paper and allied products; all sub-groups in the chemical industry, paints, varnishes and colors; drugs, toilet preparations and insecticides; industrial chemicals, and other chemicals; rubber products; stone, clay and glass products; blast furnaces, steel works and rolling mills; iron and steel foundry products; other iron and steel products; nonferrous metals and their

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Furniture and  
Chemical  
Products  
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## ESTIMATED POSTWAR OUTLAYS OF WEST COAST MANUFACTURERS

By selected industry groups (excluding steel mills and non-ferrous metals)

Industry	Total outlays (millions of dollars)		Purchase of Gov't owned plant & eqpt.	Purpose of outlays (per cent)					Source of funds (per cent)			
	Minimum	Maximum		New plant const.	Structural additions & repairs	Re- tooling	Accum. of working inventories	All other	Total	Own resources	Banks	All other
Food and kindred products.....	26	36	----	48	23	10	3	16	100	72	25	3
Lumber and timber basic products....	70	80	----	2	42	2	52	2	100	96	3	1
Furniture and finished lbr. products	7	10	----	4	19	25	50	2	100	82	18	---
Chemicals and allied products.....	10	20	1	52	29	10	7	1	100	89	8	3
Products of petroleum and coal*.....	21	29	----	60	40	----	----	----	100	43	----	57
Stone, clay, and glass products.....	5	10	----	14	43	33	2	8	100	64	35	1
Iron and steel and their products....	16	19	3	23	13	22	28	11	100	76	21	3
Machinery (except electrical).....	21	22	5	11	5	30	38	11	100	72	6	22
Electrical machinery .....	3	6	17	1	6	22	34	20	100	50	18	32
Aircraft and parts.....	77	139	2	2	4	18	54	20	100	47	34	19
Ships and boat bldg. and repairing.....	2	9	10	----	31	26	28	5	100	42	58	---
All other .....	33	53	1	25	18	12	22	22	100	71	13	16
	291	433	2	16	20	14	36	12	100	67	19	14

With respect to postwar outlays, reporting firms in each industry were classified in three groups: (1) those reporting planned outlays, (2) those reporting no outlays planned; and (3) those not reporting or uncertain. Maximum estimates are based on the assumption that firms in group 3 will spend proportionately as much as those in group 1; minimum estimates are based on the assumption that firms in group 3 are comparable with those in group 2 and will have no postwar outlays.

\*Including oil production, transportation and storage, as well as refining.

products; machinery, except electrical; electrical machinery.

Manufacturers' intentions presented in the Federal Reserve Bank report are based upon reports from 857 firms, which represented 28 per cent of all Pacific Coast manufacturing employment in 1939 and 45 per cent in 1943. Excluding aircraft and shipbuilding, reporting firms represent 24 per cent of total employment in manufacturing in 1939 and 23 per cent in 1943. Coverage of individual industries varied considerably, however.

The reports are those of existing firms, and estimates based on their intentions do not include any allowance for the entrance of new firms into Pacific Coast manufacturing. Estimates presented are based on the summation of individual reports, not on the consensus of reporting manufacturers about postwar prospects of their industries. In other words, industry totals have been estimated by the Federal Reserve Bank from the survey results.

Concerns were asked to report their expected postwar employment on the assumption of both good and of poor general business conditions, but the Bank points out that the amount of employment indicated under either good or poor business conditions does not, in turn, itself afford a basis from which to predict that business conditions will be, in fact, good or poor.

The Federal Reserve Bank's summary of the investment situation is as follows:

"Conversion of war plants to postwar production of new products is expected to be negligible. Investment outlays planned in the change to postwar operations are indicated to be fairly substantial, however, with about one-third of the total being for inventory accumulation. Funds are expected to be provided in large part from manufacturers' own resources.

"Results of the survey suggest that little can be expected in the way of conversion of war plants to peacetime production. So far as the survey shows, no major shipyard or aircraft plant is to be converted to large scale manufacture of new products.

"For manufacturing as a whole, plants accounting for about 42 per cent of the total value of production at February 1944 rates are to be closed down; plants accounting for 54 per cent are to be used in producing prewar products; and plants accounting for 4 per cent are to be used in manufacturing new peacetime products.

"Exclusive of the shipbuilding and aircraft industries, the figures are as follows: 3 per cent of the plant capacity is to be closed down, 91 per cent is to be used in making prewar products, and 6 per cent in making new products.

"It is estimated, again on the basis of reporting firms' intentions, that up to 430 million dollars will be spent on capital outlays by West Coast manufacturers. This is exclusive of any allowance for the new integrated steel works at Fontana or for

### A GIGANTIC PRECISION JOB

"No one before had even considered seriously building precision instruments as large as airplanes by mass production methods," said Donald Douglas, speaking before the Commonwealth Club in San Francisco in March.

"Against a few hundred parts in an automobile, there are as many as 20,000 parts, excluding rivets, bolts, and nuts, in an airplane.

"Against a thousand man-hours per unit in the automobile industry, some airplanes required, in the beginning, as many as 340,000 man-hours each on the giant 4-engine models, later reduced to 50,000."

the new nonferrous metals plants in California and the Pacific Northwest, which may require additional heavy investment if they are to be kept in operation.

"Somewhat more than half of the total outlay is indicated to be for plant and equipment. This amount, if in excess of 200 million dollars, as indicated by the maximum estimate in the accompanying table, would be about twice as large as expenditures of Pacific Coast manufacturers for plant and equipment in 1939, which amounted to an estimated 110 million dollars.

"It would also be an appreciable proportion of the total wartime Government investment of about 2 billion dollars in new war plants in the area and almost half the estimated 500 million dollars of private expenditures for war plant and equipment during the same period.

"About 7 million out of the 430 million dollars is intended for the purchase of Government owned plant and equipment, with the aircraft industry being the most important single buyer; 70 million is intended for new plant construction; 85 million is for structural additions, alterations and repairs; 60 million is for retooling, with the aircraft industry again standing out; 155 million is for the accumulation of working inventories, particularly by the lumber and timber industry and the aircraft industry; and 55 million is intended for other purposes.

"None of the reporting manufacturers expect difficulties in raising the necessary funds. Two-thirds of the intended outlays are expected to come from the manufacturers' own resources. Banks are expected to furnish about 20 per cent, and 13 per cent is to be obtained from other sources—investment bankers, parent corporations, or stockholders.

# Information Please! Asks Our Uncle Sam of Contractors . . .

**I**F YOUR war contract was terminated tomorrow, could you furnish the necessary information to the termination officer which would insure:

1. Payment for the terminated portion of the contract within the shortest possible time?

2. Fair treatment for yourself?

3. The termination officer having sufficient information to permit him to accept your figures on behalf of the government?

Unless you can comply now with the requirements of the above, you should set up at once a termination unit within your organization and make it responsible for the proper preparation of your reconversion preparations which must be made:

1. Having all verbal and informal agreements relating to government con-

**By COL. HARRY M. ANDREWS**  
President, Federal Administrative Advisors, Inc.,  
Seattle, Washington

Colonel Andrews recently retired from the U.S. Army after 27 years of service in the Quartermaster Corps. He served eight years in the office of the Quartermaster General at Washington, and for five years was commanding officer of the Quartermaster Depot in Seattle. He is also a graduate of Spokane College, law department.

tracts reduced to writing and approved by the contracting officer.

2. Preparation of termination instruments for use in your own plant and to send to subcontractors immediately upon receipt of your notice of termination.

3. Familiarize themselves with the rights of your subcontractors, if any, and provide for the termination of the subcontract.

4. Supervision of cost and inventory records.

5. Preparation of sample termination forms.

6. Studies as to financial plans in case of termination.

7. Transfer or layoff of key personnel.

8. Preventing unreasonable inventories.

9. Scrap. Particular attention should be paid to the segregation of all scrap material and to include in inventories.

These points above constitute just a few of the actions which should be taken to insure a prompt and orderly conversion of your plant from war to peacetime production and the important thing is to do it now.

The disposal of contractors and government property presents difficult and complex questions and you should be planning now as to what you wish to retain for your own business and what disposal you would

## Are You Ready For Termination? Yes, If You Can Answer These Questions Favorably

(Propounded by Lieut. Commander E. J. Demson, officer in charge of contract terminations in the office of the Inspector of Naval Materials, San Francisco, at a termination meeting held in San Francisco Mar. 16)

1. What is your accounting year?
2. Are profit and loss statements prepared at regular periods (monthly, quarterly)?
3. Can you submit settlement proposals within sixty days?
4. Will your claim be submitted on inventory or total cost basis?
5. What portion of your inventory is physically segregated as between individual contracts?
6. Are you prepared to tag and segregate all materials after the physical inventory has been taken?
7. Do you know what cut-off points in manufacture have been established to determine not only costs but what items should be completed to become usable or salable?
8. How will you show inventory to be not in excess of the requirements of the terminated contract?
9. Are cost estimates and bills of material available?
10. How do you:
  - a) Set up procurement requirements?
    1. On basis of bill of material?
    2. On other basis?

- b) Allocate purchased material to individual contract?
  1. By requisition from common stores?
  2. By allocation at time of purchase?
  3. Are stock record cards maintained to show inventory balances allocable to each contract? If not, how will allocation of inventories be made at termination date?
- c) How do you allocate direct labor charges?  
On basis of labor tickets?
  - a) Prepared by \_\_\_\_\_
  - b) Checked by \_\_\_\_\_
  - c) Do timekeepers make door checks?
  - d) How do you allocate factory overhead?
  - e) Allocate general and administrative expenses?
  - f) How do you amortize tooling costs (if any)?
  - g) How will you include any charge for pre-operation or initial costs, or for less on special facilities?
11. How will inventories be costed?
  - a) Raw materials and purchased parts?
  - b) Work in process?
  - c) Finished parts?
12. How will you record settlement expense or post-termination charge?
13. Are you ready to dispose of inventory?

\* \* \*

Commander Demson also says that accounting evidence which gets quick results in settlements must show that:

- a) It is a written record.
- b) Regularly kept.
- c) For a reasonable length of time.
- d) In a reasonably acceptable commercial form.

Hearsey evidence, such as the statements of some person in your business familiar with the contract's performance is not acceptable evidence. Such situations must be worked out, and therefore take a great deal of time with resultant delay in payment.

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recommend for the remainder; for example, whether to store it in part of your plant which might be available; to sell on the market; to have the government remove it from your plant or to dispose of it as scrap or waste material.

Remember, while all government personnel handling contract terminations are fully aware of their responsibilities for expediting prompt settlements and will render all possible aid to the contractor, they cannot prepare your proposal for settlement. This responsibility rests solely upon you and the correctness of your accounting methods and records will determine the accuracy of the settlement proposal.

Too much emphasis cannot be placed upon the adequacy of accounting records and files. While the large contractor is apt to be well situated in this respect, the smaller contractor is usually deficient and this is the deficiency which must be corrected if prompt settlement is to be obtained.

Standard procedures and instructions have been devised and sent out by the government for handling of termination questions and these should be followed explicitly.

Proposed settlements properly prepared on the uniform basis will supply the information deemed necessary by the government departments to permit an orderly review. If the standard procedure is not followed, additional work is imposed on all those who must review the settlement and delay is sure to result. If deviations are necessary, and they may be in some cases, consult the termination officer in advance. The time spent in familiarization with the forms and procedures in advance will save time at some later date.

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Remember, it is imperative that you submit your statement of costs and proposals for settlement. In order to do this, you

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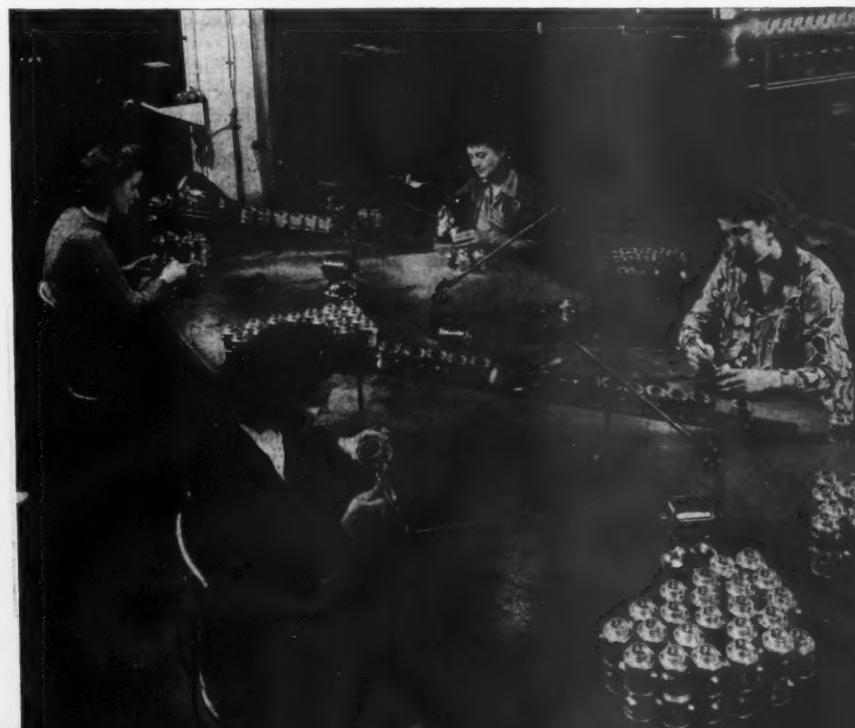
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money approximately six days after cancellation.

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Whether the contractor gets what is really coming to him is entirely his own responsibility. Everything he expects to get must be included in his claim, for the law does not permit any increase in payment once a claim has been presented and approved.

\* Women workers of the L. R. Teeple Co. in Portland deburring inside of bomb nose fuses to smooth up the surfaces where rough edges have been left in the cutting.



# Information Please! Asks Our Uncle Sam of Contractors . . .

**I**F YOUR war contract was terminated tomorrow, could you furnish the necessary information to the termination officer which would insure:

1. Payment for the terminated portion of the contract within the shortest possible time?

2. Fair treatment for yourself?

3. The termination officer having sufficient information to permit him to accept your figures on behalf of the government?

Unless you can comply now with the requirements of the above, you should set up at once a termination unit within your organization and make it responsible for the proper preparation of your reconversion preparations which must be made:

1. Having all verbal and informal agreements relating to government con-

By COL. HARRY M. ANDREWS

President, Federal Administrative Advisors, Inc.,  
Seattle, Washington

Colonel Andrews recently retired from the U.S. Army after 27 years of service in the Quartermaster Corps. He served eight years in the office of the Quartermaster General at Washington, and for five years was commanding officer of the Quartermaster Depot in Seattle. He is also a graduate of Spokane College, law department.

tracts reduced to writing and approved by the contracting officer.

2. Preparation of termination instruments for use in your own plant and to send to subcontractors immediately upon receipt of your notice of termination.

3. Familiarize themselves with the rights of your subcontractors, if any, and provide for the termination of the subcontract.

4. Supervision of cost and inventory records.

5. Preparation of sample termination forms.

6. Studies as to financial plans in case of termination.

7. Transfer or layoff of key personnel.

8. Preventing unreasonable inventories.

9. Scrap. Particular attention should be paid to the segregation of all scrap material and to include in inventories.

These points above constitute just a few of the actions which should be taken to insure a prompt and orderly conversion of your plant from war to peacetime production and the important thing is to do it now.

The disposal of contractors and government property presents difficult and complex questions and you should be planning now as to what you wish to retain for your own business and what disposal you would

## Are You Ready For Termination? Yes, If You Can Answer These Questions Favorably

(Propounded by Lieut. Commander E. J. Demson, officer in charge of contract terminations in the office of the Inspector of Naval Materials, San Francisco, at a termination meeting held in San Francisco Mar. 16)

1. What is your accounting year?
2. Are profit and loss statements prepared at regular periods (monthly, quarterly)?
3. Can you submit settlement proposals within sixty days?
4. Will your claim be submitted on inventory or total cost basis?
5. What portion of your inventory is physically segregated as between individual contracts?
6. Are you prepared to tag and segregate all materials after the physical inventory has been taken?
7. Do you know what cut-off points in manufacture have been established to determine not only costs but what items should be completed to become usable or salable?
8. How will you show inventory to be not in excess of the requirements of the terminated contract?
9. Are cost estimates and bills of material available?
10. How do you:
  - a) Set up procurement requirements?
    1. On basis of bill of material?
    2. On other basis?

b) Allocate purchased material to individual contract?

1. By requisition from common stores?

2. By allocation at time of purchase?

3. Are stock record cards maintained to show inventory balances allocable to each contract? If not, how will allocation of inventories be made at termination date?

c) How do you allocate direct labor charges?

On basis of labor tickets?

a) Prepared by \_\_\_\_\_

b) Checked by \_\_\_\_\_

c) Do timekeepers make floor checks?

d) How do you allocate factory overhead?

e) Allocate general and administrative expenses?

f) How do you amortize tooling costs (if any)?

g) How will you include any charge for pre-operation or initial costs, or for less on special facilities?

11. How will inventories be costed?

a) Raw materials and purchased parts?

b) Work in process?

c) Finished parts?

12. How will you record settlement expense or post-termination charges?

13. Are you ready to dispose of inventory?

\* \* \*

Commander Demson also says that accounting evidence which gets quick results in settlements must show that:

a) It is a written record.

b) Regularly kept.

c) For a reasonable length of time.

d) In a reasonably acceptable commercial form.

Hearsay evidence, such as the statements of some person in your business familiar with the contract's performance is not acceptable evidence. Such situations must be worked out, and therefore take a great deal of time with resultant delay in payment.

recommend for the remainder; for example, whether to store it in part of your plant which might be available; to sell on the market; to have the government remove it from your plant or to dispose of it as scrap or waste material.

Remember, while all government personnel handling contract terminations are fully aware of their responsibilities for expediting prompt settlements and will render all possible aid to the contractor, they cannot prepare your proposal for settlement. This responsibility rests solely upon you and the correctness of your accounting methods and records will determine the accuracy of the settlement proposal.

Too much emphasis cannot be placed upon the adequacy of accounting records and files. While the large contractor is apt to be well situated in this respect, the smaller contractor is usually deficient and this is the deficiency which must be corrected if prompt settlement is to be obtained.

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\* Sweeping back alumina after the pot has been worked. An operating scene at the Reynolds Metals Co. plant at Longview, Wash.

## Western Industrialists Called To Seattle Aluminum Conference

**A**LUMINUM will be the magnet to draw interest to the second industrial conference of the Western States Council, to be held in Seattle June 21-22. It will be on the order of the steel meeting at Salt Lake City in February, and official attendance will be limited to 50 to conform with ODT convention regulations.

Actual investigation of the aluminum situation, as in the case of steel, will be put in the hands of a committee of industrialists to be appointed at Seattle with a committee of chamber of commerce men working up the program.

James E. Louttit, manager of the Seattle Chamber of Commerce industrial department, is chairman of the program committee, and Graham Steel, manager of the Seattle chamber's postwar department, is secretary. Other members are the following chamber of commerce managers: Gus Backman, Salt Lake; Arthur J. Farmer, Portland; T. M. Stevenson, Tacoma; Don Walters, manager of Inland Empire Industries, Spokane; and the following managers of chamber industrial departments: James F. Bone, Los Angeles; Elmer Hammond, Oakland. F. T. Letchfield, industrial engineer for Wells Fargo Nevada National Bank, San Francisco, will act as consultant for the committee.

A preview of what may be brought to light at Seattle was given in recent testimony before the Senate Special Committee on Small Business at Washington, where

representatives of the aluminum industry testified.

Postwar markets sufficient to attract and maintain aluminum semifabricating plants can be developed in the Pacific Northwest in the opinion of Aluminum Company of America, according to the statements of I. W. Wilson, vice-president in charge of operations. He said that any American aluminum company would find it difficult to compete successfully in the world's aluminum market unless it had the benefit of the economies resulting from a large-scale integrated operation, because European companies were either integrated in this manner or have achieved substantially the same result by agreements.

Bonneville Power Administration's ideas were set forth by Dr. Paul J. Raver, Bonneville administrator, and Samuel Moment, market analyst. The former recommended that the government make a

deliberate and sustained effort to bring additional new blood into the primary production of aluminum, by giving new operators access to bauxite reserves, favorable leases on plants, assuming the cost of altering plant facilities and relocating improperly located plants and equipment.

Mr. Moment said that four and one-half of the present nine government aluminum plants will have to be written off because of high power costs after the war. In his opinion, a new producer would have to be able to produce aluminum at 10 cents a pound in order to anticipate a decline in price from the present 14 to 12 cents and even a temporary sag below 12 cents.

These surviving plants, according to Moment, would be three in the Pacific Northwest, the Massena, N. Y. plant, and half of the Jones Mill in Arkansas. He thought there was no prospect of operating the Modesto, California, plant economically after the war.

Indications that the DPC plant at Tacoma operated by the Olin Corporation would not survive were given by F. S. Elfred, Jr., general manager of Olin, who said his company was not now interested in postwar operation of the plant, because of the uncertainty about raw materials, economic conditions and the tax situation. Olin has a subsidiary plant at Salt Lake City working on alumina from clay process of obtaining bauxite, but apparently he had no statement to make regarding that.

More hopeful was J. O. Gallagher, pres-

### NEARLY HALF FROM THE WEST

Nearly one-half of the total U. S. production of aluminum ingots in 1944 was from the three Pacific Coast states, the Aluminum and Magnesium Production Division of the War Production Board has informed *Western Industry*. The figures are as follows, in millions of pounds:

	Total U. S.	Western States	Pct.
1942	1,042	315	30.2
1943	1,840	620	30.3
1944	1,553	678	43.6

sident, Columbia Metals Corp., Seattle, who has been promoting an alumina from clay plant at Salem. He believes the combined pig capacity of Reynolds and the "live" Alcoa plants will be insufficient to meet the demand five years after the war and said Columbia proposes to establish an alumina from bauxite plant in the Northwest as soon as tidewater bauxite can be obtained.

A recommendation from the Monolith Portland Cement Co., Los Angeles, that the DPC plant they are now constructing at Laramie can be completed and research program continued was presented by Coy Burnett, president, and H. D. McBride, manager of the Oxide Division.

#### Develop New Type Of Plastic Laminate

A new plastic laminate which is stronger and lighter than the Duraluminum ordinarily used in manufacturing airplanes has been developed by Dr. G. G. Havens and G. A. Gordon, research engineers for Consolidated Vultee Aircraft Corporation at San Diego.

Known as "Conolite," it is made by impregnating Fiberglas or Fortisan fabric with a new type thermosetting resin and can be "cured" in numerous complex shapes with greater speed and economy than any other material currently known to exist. Although still considered an experimental project by its originators, Conolite is already being used to fabricate parts of Liberator and Dominator bombers.

Its tensile strength can be as high as 120,000 pounds per sq. in., but its specific gravity is only 1.6.

# Fluid Cracking Unit Is World's Largest

THE largest single fluid catalytic cracking unit in the world, owned and operated by Tide Water Associated Oil Company at its Avon, California, refinery, is now in continuous production of 100 octane gasoline.

The oil charged to the unit is a portion of the crude from which all available gasoline and kerosene have been previously removed in other refining steps.

Only one cracking step is needed to make the gasoline and other products. The cracking reaction takes place at about 950 degrees Fahrenheit in a huge 300,000 gallon vessel where oil is brought in contact with hot catalyst.

The flowing catalyst in the reactor becomes coated with carbon and is transferred at the rate of 80,000 pounds per minute through a 100 foot, 92 inch diameter pipe to the regenerator for burning off the carbon. This is located at the top of the "Cracker" and is insulated with interlocking fire brick hung from steel hangars.

Burning of the carbon off the catalyst not only regenerates the catalyst for subsequent return to the reactor and further cracking, but also furnishes the heat for the entire operation. It supplies the temperatures required in the cracking and generates high pressure steam for the operation

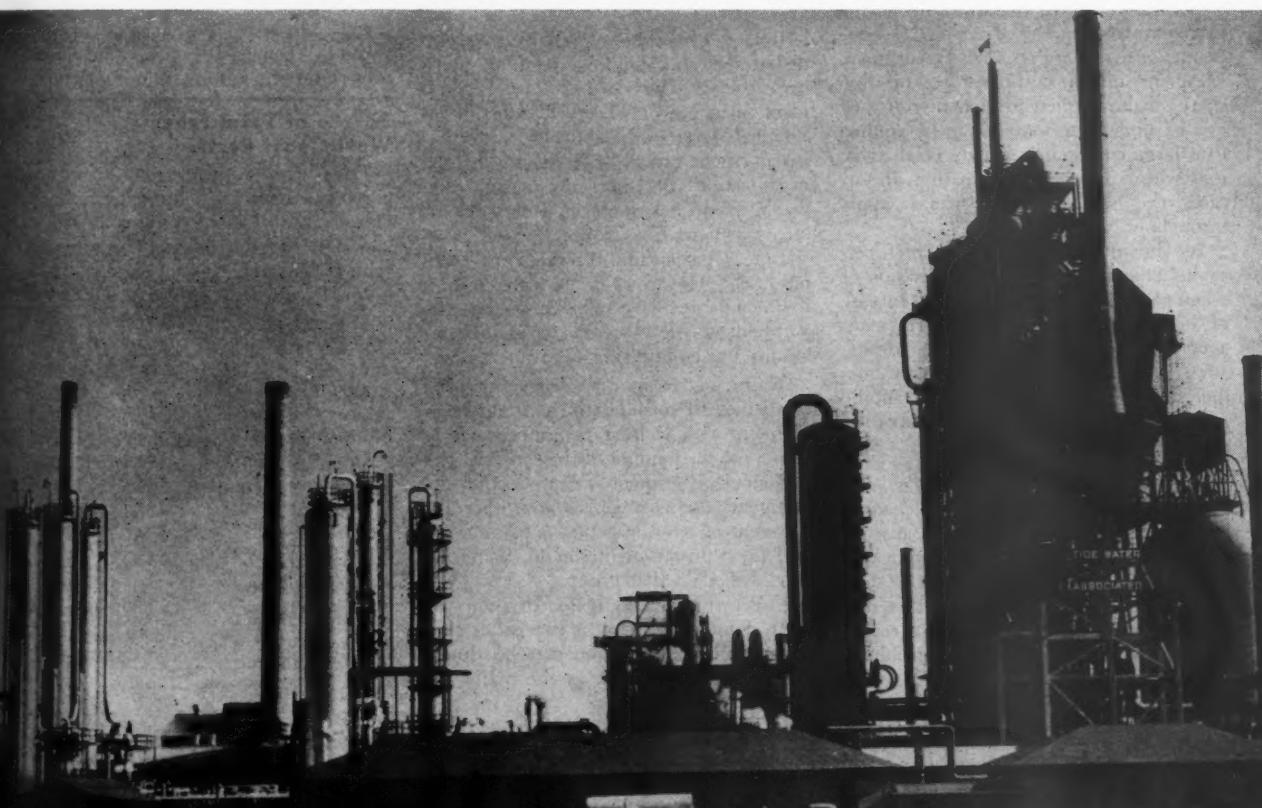
of the turbines and other equipment.

A new chemical engineering technique is used in which a powdered solid (the catalyst), is handled and made to flow as fluidly as water due to aeration with air and oil vapors. This produces a freely moving mass which moves in much the same manner as a liquid through the catalytic cracking and regeneration processes necessary to the production of super octane fuel.

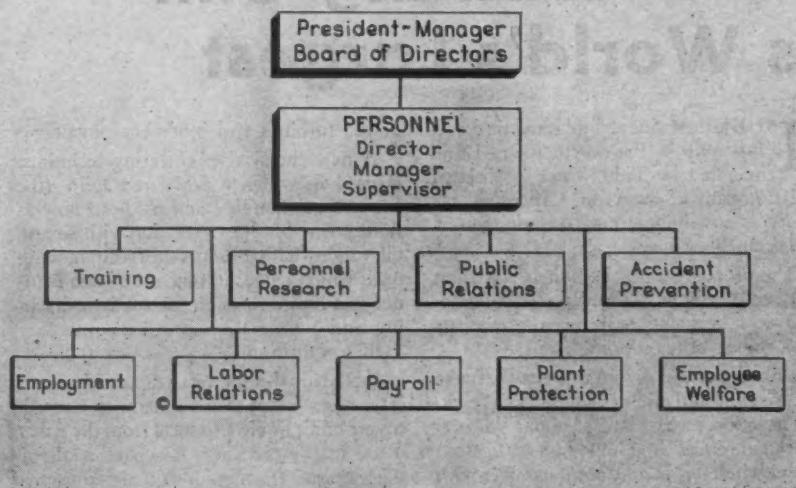
Included with the catalytic cracking unit is the gas plant, which handles the recovery of all liquid products from the gases made in the cracking. It separates all of the gasoline fractions into their appropriate component parts for subsequent processing into 100 octane aviation gasoline. A large series of tall fractionating columns ranging up to 85 feet and five gas compressors totaling 4000 h.p., are involved in this part of the unit.

The pentane isomerization plant is the first commercial plant of its type to be constructed. It synthetically produces isopentane, an important ingredient of very high octane number needed in the blending of aviation gasoline. The material from which this is produced is normal pentane whose octane number is materially lower than third grade gasoline. This process, therefore, takes a low octane product and converts it into one of highest octane number.

\* Tide Water Associated Oil Company's single fluid catalytic cracking unit at the right; gas plant installation towers are at the left.



## The Major Divisions of a Personnel Department



# Logical Divisions of A Personnel Program

THE accompanying chart briefly outlines what I consider to be the logical segregation into divisions of a personnel program.

I believe that such a segregation is a practical idea because, even in a small concern, grouping the departments and information, correspondence, etc., under these major divisions in your filing system makes it a convenient way to keep track of correspondence, forms, etc. Probably no department has a more diversified correspondence than the Personnel Department.

Again, such an outline or organization chart can be applied to a small company housed under one roof or can be applied to a large corporation with several divisions within a city, state or nation. In any case, the same outline would apply throughout.

As shown in the chart, the chief personnel officer or officers of any division of a company may be the president, in case of a concern under one roof, or the manager in charge of a division of a corporation, or it may be the board of directors themselves. These things depend on the geographical setup and the number of employees in each division.

### Applicable to Any Business

This same outline, with a few changes in titles, could apply to almost any industry or business and, under a segregated setup, is actually being used by the state and federal governments, with this difference that most divisions do not report in to the same head but are responsible to separate agencies.

By ROBERT H. WILLIAMS  
Personnel Director, Bingham Pump Company,  
Portland, Oregon

The personnel director (manager, supervisor, or whatever title he is known by) is the staff assistant of the president, manager or board of directors. He may even have the title of vice-president, industrial relations manager, public relations manager, etc.

In any event, he represents a service department and should serve in an advisory capacity to the board of directors, president, manager or whatever group of individuals serve in the above-named capacity in their group or business. In the organization of most businesses, top management has segregated the departments somewhat as follows: Sales, Purchasing, Accounting, Production, Technical, etc. However, up to date, only a few companies have made a separate department of the personnel or human relations and engineering departments.

There has been a tendency by many companies to consider the personnel department as a welfare department rather than a production unit of the concern. The personnel department is a production department just as much as any other department in a business that is being operated for a profit and it should, therefore, be classified in that group.

Under the various major divisions of the personnel program, it is possible that some specialized function may be almost as large and important as the major di-

vision itself, such as job analyses under the Personnel Research Division or housing under the Employee Welfare Division; all these departments overlap into one or another of the major division.

Some people may think that some one or more of these major divisions of the personnel organization chart are not placed in their rightful position according to their importance. If so, change them according to the importance placed on them in that company.

The personnel director's function is staff, not line. His work is to advise top management—the board of directors, president and others. He must know what is taking place within the organization. His work is to determine company policy applying to safety, employee welfare, public relations, training and other matters. He should determine procedures and have the responsibility for avoiding legal entanglements and for compliance with government orders and directors.

One of the most important of the departments is personnel research, because it must plan ahead and anticipate trends. Its work overlaps into all the divisions of a personnel program. It is the direct advisor of the personnel director, and should furnish legal advice, make surveys, work out suggestion systems and develop personnel policies.

Here are some of the questions it should logically concern itself with:

Labor contracts, labor trends, annual wage, group insurance, results of counseling, employment of women.

Costs, critical skills, accident costs, supervision of industrial relations, control standards, merit rating, employee rating, internal procedure and methods.

Simplification process, time studies, research into social problems of industrial relations, company policies and procedures, rules and information booklets.

### 27½% of Total From West Coast Ports

Dry cargo shipped from West Coast ports to American fighting forces in the Pacific and to United Nations totaled 15,236,309 long tons in 1944, according to John E. Cushing, assistant deputy administrator, Pacific area, of WSA. This constitutes about 27½% of the 56,500,000 long tons of dry goods moving from all American ports last year. In addition a total of 3,600,000 tons of bulk liquid cargo, excluding military supplies, was shipped from Pacific Coast ports during the year.

Shipments of dry cargo from various ports in 1944 compare:

Area	Tonnage
Columbia River	1,856,997
Southern California	2,481,620
Puget Sound	2,976,467
San Francisco Bay area	7,921,225
Bulk liquid cargo, excluding military supplies, compare:	

Area	Tonnage
Southern California	2,107,000
San Francisco Bay area	1,493,000

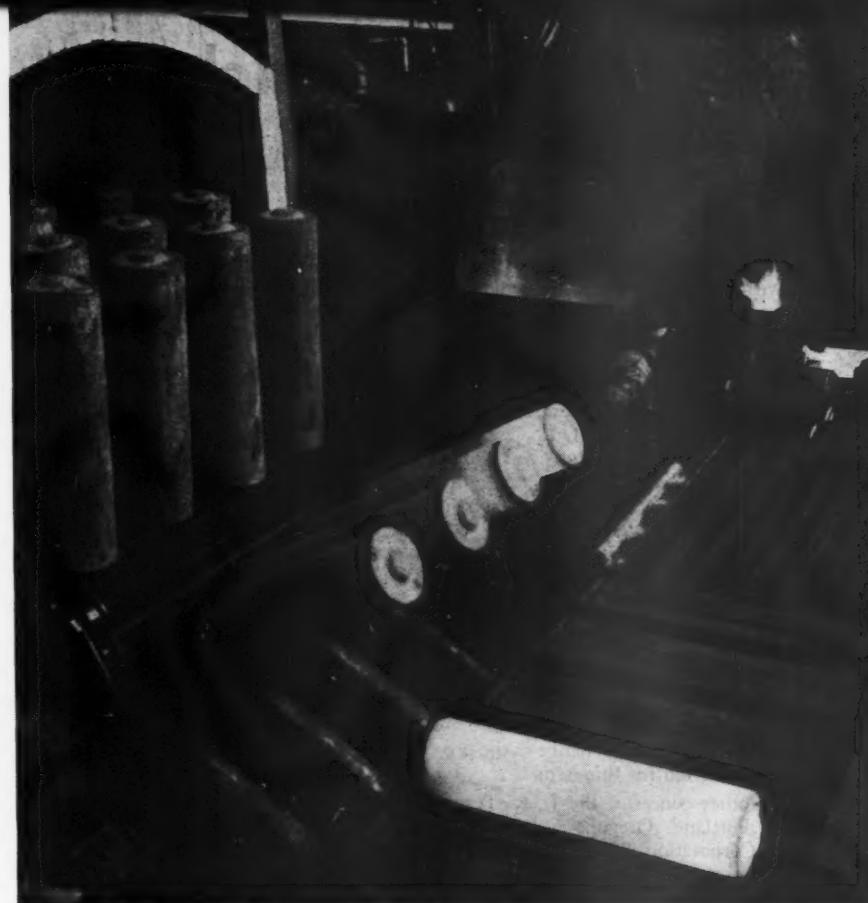
# Colorado Peak Demand Ahead on Manpower

MANPOWER shortages are easing off in Coast states as the result of decreased shipyard activity, the Rocky Mountain region is approaching a delayed problem that threatens to reach its peak within a few months. The deficit for the agricultural season and for mining and expanding war industries is estimated by the Denver office of the War Manpower Commission at 35,000 workers.

The area has both large and small industries, with the steel mills at Provo and Pueblo and the Kaiser and Remington Arms ammunition projects at Denver getting most of the limelight. The industrialization of the region, however, is perhaps better revealed in some of the smaller operations. There are approximately 300 war industries, big and little, in the region, with more than 200 of these in Colorado.

Among these smaller enterprises are the following samples which serve to indicate what the war has brought about in the mountain states:

A little shop in Cheyenne, Wyoming, a pre-war partnership but a war-time plant of twenty men and women, makes an important share of the nation's precision tools and instruments . . . socket wrenches so tiny that the facets are revealed only under a powerful microscope. Another Cheyenne shop carried almost the total burden of manufacturing brass valves for the Navy.



In Denver, the Eaton Metal Products Company turns out the great Navy pontoons used for transport, barges, bridges and floating islands. Also from this plant, which has 450 workers, comes fabricated steel decks, storage tanks for arsenals, flo-

tation mining machinery for Lend-Lease, diesel chargers and dozens of other important items of war equipment.

Huge 260-pound fragmentation bombs and 90-mm. armor-piercing shells are only two of the items rolling off the production lines of Denver's Cobusco Steel Products Company. Organized in 1905, the Colorado Builders Supply Co., which is the long way of saying Cobusco, was fabricator of peace-time building materials.

The Quick-Way power shovels, which literally dig the Japs out of their foxholes, which tear down or build up fortifications with speed and ease, are the final product not only of this manufacturing company but of the cooperative efforts of nearly 50 different part-making shops in Denver.

One of Colorado's little "gadget" manufacturers which started business, not on a shoestring, but on a simple little contrivance to keep screen doors from slamming, now is in the slamming business in a big way. The Heckethorn Manufacturing Company carries some of the nation's most vital war contracts—making 20-mm. anti-aircraft projectiles, 4.2 mortar fuses, bomb fins, and many other items.



• Big shells and small. (Above) Pierce and draw operation in the forge plant of the Kaiser Industries, Denver. (Below) Three-inch shells await inspection at Cobusco.

# Ordnance Cutbacks Hit Only 12 in West

"ONLY twelve West Coast concerns operating under Army Ordnance contract were affected by the cutback in the artillery ammunition and tank program as announced recently by the War Department," according to Col. K. B. Harmon, district chief of the San Francisco Ordnance District.

"The change in production schedules as they affected these Army Ordnance Coast plants is, in the majority of plants, not a cutback in present production but rather the elimination of planned increases in output," he declared.

One of these manufacturing concerns, the Rheem Manufacturing Co., at its Las Vegas, Nevada, plant, received an immediate cancellation of a projected contract for the manufacture of 105-mm. shell forgings. The company was tooling up for this job, but not yet in production. It will continue to manufacture M-57 81-mm. mortar shells and there is no change in the projected production for this item.

Two other concerns, the L. R. Teeple Co. of Portland, Oregon, and the Chemurgic Corporation, Richmond, Calif., received notice of termination dates on their present contracts. The L. R. Teeple Co. has been manufacturing M-129 bomb fuses. Production was ordered cut 50 per cent immediately, the contract to be terminated

as of July 31, 1945. The Chemurgic Corporation, which has been manufacturing the M6A4C hand grenade fuse, received a cancellation of its contract as of May 15, 1945.

Four other companies were ordered to reduce present production schedules. They are: Columbia Electric Co., Spokane, Wash., which has been under contract for the manufacture of 20-mm. practice shells, received a 13 per cent reduction of their production schedules; however, the company's contract for the manufacture of 81-mm. fin assemblies is being increased.

Western Stove Co. of Los Angeles, which has been manufacturing M16 cartridge storage cases, the Golden State Fireworks Co., Redondo Beach, Calif., which has been producing the M1A spotting charge, and Poulsen & Nardon of Los Angeles, which has been producing the M62A1 fuse, all had present contracts curtailed by 50 per cent.

Kaiser shell plant, Denver, the Domestic Manufacturing Co., Los Angeles, and the Lamb-Grays Harbor Co., Hoquiam, Washington, were ordered to reduce presently planned expansion programs for the production of M21A4 boosters. This does not affect the other Army Ordnance contracts now in effect at these plants, especially the Kaiser heavy artillery shell program which

is being stepped up from its present rate of production to its planned peak.

The Billings, Montana, plant of the Pointer-Willamette Co., which has been manufacturing 45-ton M9 trailers, received a partial cutback of 20 per cent on their present contract, which will run through until completed in August, 1945.

A conversion of the plant facilities of The Deutsch Company, Los Angeles, from the manufacture of one type of fuse to another type of fuse was also announced, as effective on April 20, 1945. It is anticipated that this changeover is not expected to result in any major production slowdown or curtailment in employment at this plant.

## Ups and Downs In Shipyard Employment

Employment on new ships in Maritime Commission shipyards on the Pacific Coast, estimated at 184,000 at the end of April, is expected to decline to 38,000 by the end of the year. On the other hand, employment on repair work is estimated as rising from 140,000 in April to probably 200,000 or more by July, subject to change as the Pacific situation develops.

If it is assumed that the volume of repair work will be constant from July to December, the total shipyard employment for April of 324,000 may suffer a decline of 86,000 by the end of the year, when the total would be 238,000. If, on the other hand, the repair load goes up, there may be little if any overall shrinkage.

The number of men currently engaged in building new ships and the probable figures for next December are as follows:

	April	December
San Francisco Bay area	76,000	4,000
Southern California	38,000	14,000
Portland area	70,000	20,000
Total	184,000	38,000

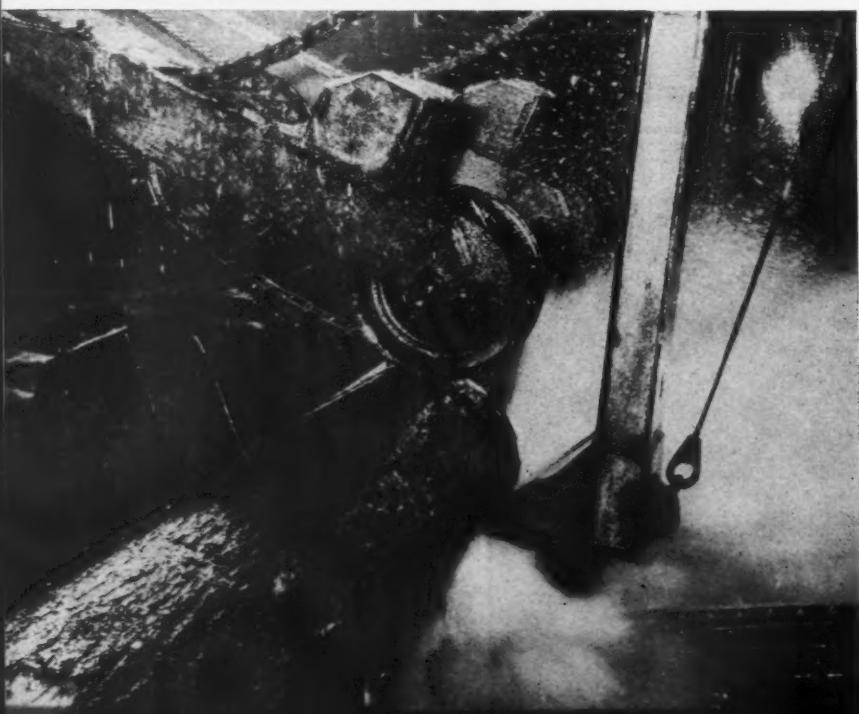
Estimates on repair work employment are as follows:

	April	July
San Francisco Bay area	74,000	123,000
Southern California	24,000	30,500
Pacific Northwest	42,000	(*)
Total	140,000	195,000

\*Estimates unobtainable, as depends entirely on developments in the Pacific.  
†195,000 is a minimum estimate, figuring in the Pacific Northwest employment at the April level of 42,000, with no provision at all for expansion.

## Bethlehem Won't Say Yes, Won't Say No

If Bethlehem wants to buy the Geneva steel mill, it isn't talking very loud about it. Sam H. Husbands, president, Defense Plant Corporation, writes to *Western Industry* as follows: "We have no communication from the Bethlehem Steel Company regarding their possible interest in this plant."



# Production Up When Noises Are Lessened

OUND conditioning in Western offices and factories is rapidly becoming accepted practice because of the comfort and relief from strain it gives executives, clerical assistants and the shop force. Usually it begins in the office, where typewriters, adding and calculating machines, telephones and conversation interfere with the quiet that is recognized as essential for good office work. The idea that it can be equally productive of efficiency in the plant itself is a little slower to take hold.

One company reported a 29 per cent reduction in typist errors after sound conditioning, and 52 per cent in other machine operators. One office recorded 37½ per cent reduction in days lost through absenteeism in the departments of the office which were sound conditioned.

Saving in telephone bills, are reported because in a quiet atmosphere there is less need for repetition, fewer call-backs because of misunderstandings, because each telephone message is clearly understood. In many offices where long distance is extensively used, this alone is an important item.

Sound conditioning also eliminates the need for many partitions, thus making fuller use of floor space, lighting, heating and ventilation systems. In many offices sound conditioning has allowed the removal of partitions, which needlessly cut up floor space, interfered with heating, ventilation and lighting.

\* Sound conditioning, eliminating need for many partitions, saves expense, relieves strain and thereby promotes efficiency. Offices of Almond Growers Association shown.



\* Installing asbestos sound absorbing material without disturbing furnishings.  
—Photos courtesy Western Asbestos Co.

Today there is a standard method of measuring the intensity of sound. The unit of measurement is the decibel. The range of intensities commonly dealt with on the scale begins at a point where a keen ear can just barely detect sound. This point is zero (0) decibels. When the intensity reaches the point near 130 decibels, a sound is felt as a definite pain.

This scale of zero to 130 db covers a range of ten trillion to 1 in physical energy units. Due to the compensating mechanism within the ear, we do not register loudness in direct proportion to the arithmetic increase in acoustic power units. One deci-

bel roughly represents the least perceptible difference in loudness distinguishable by an average ear.

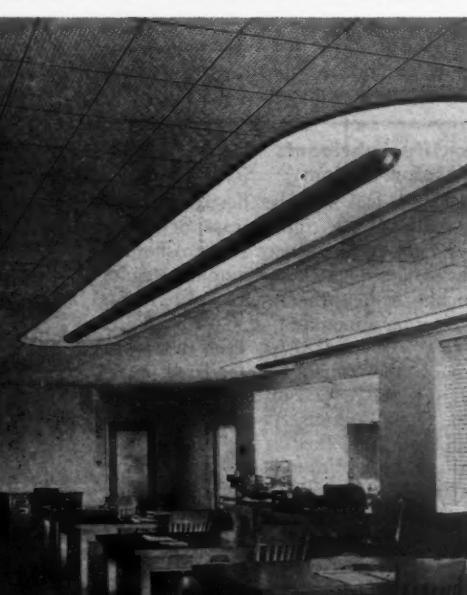
However, loudness in the usual sense is determined not by intensity alone. The character of a noise also has a bearing on loudness. The frequency, or combination of frequencies of a noise, which determine whether it is a high piercing sound or a low rumbling, will make a difference in the loudness. The ear is far more sensitive to some frequencies, pitches, than to others.

Since the ear is so sensitive to quality, practical noise control requires more than attention to loudness alone. In seeking relief from noise-induced fatigue, distraction and nervous strain, practical noise control is primarily concerned with the annoyance factors present in an office or shop noise problem.

As noted above, some of these may be inherent qualities in the noise itself; others may be more accurately termed psychological factors, as they arise from an individual's reactions to the various noise sources around him.

It is not expected that the average office, shop or factory can be made silent. Practical noise control is directed toward making the office, shop or factory environment one that protects, as far as possible, the workers from exposure to excessive and needless noise. And, it may be well to note here that no one ever becomes accustomed to noise. A worker may be conditioned to the point where there are no apparent symptoms of the harm being done, but the effects go on.

There are three basic steps in a general noise reduction program, or in seeking a





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solution to a specific noise problem. They are:

1. Reduce the noise at its source.
2. Isolate the noise source.
3. Absorb as much of the sound energy as possible to deaden the noise and prevent its spreading.

In shop or factory careful attention to maintenance will frequently do much toward eliminating unnecessary noise. Machines in poor condition are almost always generators of excessive noise, and sometimes a hazard. Everything that vibrates faster than 16 cycles per second adds to the general noise level. Common sources of needless noise around machines are loose guards, shields or casings.

Where the general noise level is considered high, it may be thought that attention to these minor points is of little value. However, such sources not only add generously to many shop noise levels, but the resultant sounds are often in the most annoying and easily heard frequencies.

A squeaking bearing or a chattering shield can easily add the component that puts a raw edge on the over-all sound. At best, nozzles on compressed air lines are bad, noisewise. Home-made, hastily fashioned nozzles of pinched tubing usually have disagreeable whistles. Rattling pans and trays on work benches and around machines constitute noise sources that can easily be eliminated.

Are your machines properly mounted? It is not uncommon to find rapidly operating and vibrating machines bolted solidly to wood or concrete floors. This practice usually converts the floor into a huge sounding board that amplifies and helps to spread sound from a given machine over a wide area. In applying mountings, make sure that the mounts fit the machine. Too little or too much resiliency can make a bad situation worse.

Many noisy operations can be isolated from surrounding factory work areas either by studying possible rearrangement of machine layout or by specially built booths and enclosures. Excessive noise from tumbling barrels, de-coring machines, generator testing machines, grinding operations, chipping operations and many others of similar nature, has been successfully suppressed by this means.

The principal effect of sound conditioning a general area with sound absorbing materials are deadening and limiting the free spread of the noise from all sources. In highly reverberant rooms it is usually possible to lower the actual over-all intensity by several decibels.

Lowering the level, however, is usually subordinate to the alleviating effects brought about by absorbing the more annoying high frequency portions from the general noise volume, thereby changing the character of the remaining noise. These effects can sometimes be heightened by the use of properly placed acoustical baffles in conjunction with the general sound conditioning treatment.

#### Identify Lubricants By Color System

Unskilled labor can be effectively guided in applying the right grease or oil to machinery through use of a new American War Standard based on a simple system of matching colors, the American Standards Association announced.

This war standard has been developed through the American Standards Association at the request of the National Machine Tool Builders Association and the War Production Board. The purpose is to facilitate the lubrication service of machinery and also to cut down the increasing amount of damage to machinery in war

plants from misuse of lubricants by unskilled labor. According to the National Machine Tool Builders Association, damaged machinery has led to serious delay in war production, not only because the machines were out of production for a certain time, but also because materials for repair are often difficult to obtain. In a typical case, the erroneous application of a grease to the bearings of a grinding machine requiring high-grade machine tool spindle oil resulted in the machine being out of commission for several months.

The Color Code for Lubrication of Machinery aims to make the application of the right lubricant so simple that the least skilled employee can hardly make a mistake. The committee in charge has worked out a basic system of color markings to be applied to the containers of a given lubricant and also to the points where each lubricant should be applied. The lubricating device, such as an oil can or grease gun, and the lubrication fitting to be serviced with it are marked with the same color, either by paint or decalcomania. Thus the service man has only to "match colors" to be sure that each lubricant is being used in the right place.

The code covers eight general classes of lubricants, each of which is designated by an identification color. The oils are divided into five classes and the greases into three. For both oils and greases, there is a "general purpose" class and a "special purpose" class. The three remaining classes of oils are: machine tool spindle oils, gear oils, and hydraulic oils. The third class of grease is for anti-friction bearings.

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# Moving Coal By Machinery In Utah Mine

**C**OAL MINES in the Rocky Mountain area have the reputation of being the most highly mechanized of any in the country. It is estimated that the investment is about \$10,000 per worker, which makes possible high production per man and consequently high wages.

The accompanying pictures show the tools and machines used in just one district of the Utah Fuel Co.'s Castle Gate mine, and tell a step-by-step story of how coal is taken out of the mine by miners using materials handling equipment.

Following the pictures by number, the sequence of operations is as follows:

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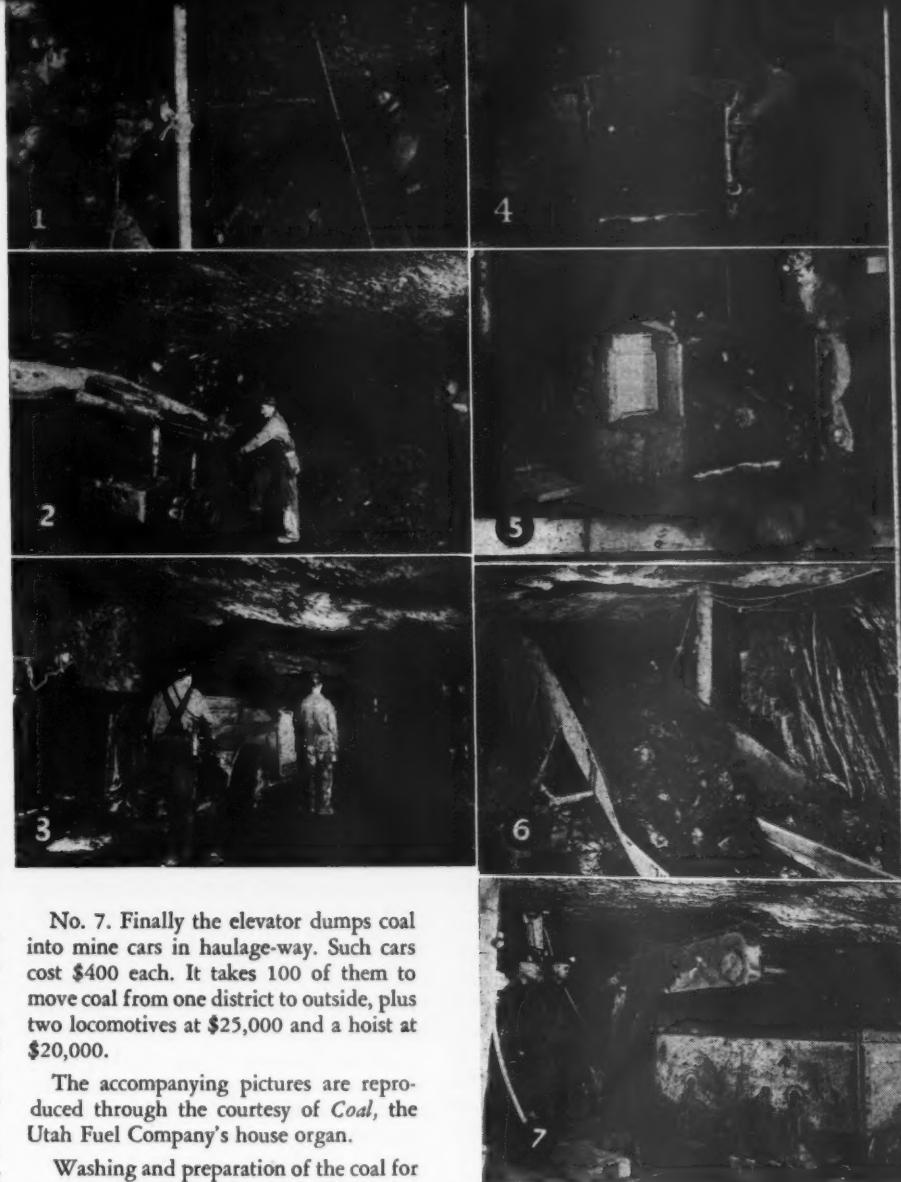
No. 2. After the coal is shot down, a crew moves in with a Joy loading machine worth \$12,000. It grabs up the coal with great arm-like appendages. Shown are Tom Bendall, Lowell Davis, and Jim Ockey.

No. 3. Another crew moves a Joy shuttle car into place behind the loader. It catches the coal as it falls from the loaders' conveyor. It takes two of these shuttle cars to service a loader. They are worth \$12,000 each.

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Washing and preparation of the coal for market after being taken out of the mine is also a highly mechanized operation, involving the use of much materials handling equipment.

After arriving at the tipple from the mine, the lump and stove coals are screened out and the refuse removed by hand picking. These two sizes then are delivered to railroad cars over adjustable loading booms.

Coal of 3-inch size or under is dumped into a pit which acts as a storage reservoir to feed the washing plant. From this pit the coal is conveyed by a 42-inch wide anti-friction belt conveyor and delivered to the wash box, where the clean coal is floated along by water made turbulent by the upward flow of compressed air, perfectly regulated.

The impurities sink to the bottom of the wash box, from which they are removed

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Coarse stoker coal, uniform in size and quality, is conveyed to a screen heat drier where the moisture is removed. After the final dewatering, the various sizes are conveyed by separate bucket elevators to blending bins where the desired proportion of each size can be combined in the mixing elevator. The plant is a Link-Belt installation, involving a large amount of their equipment.



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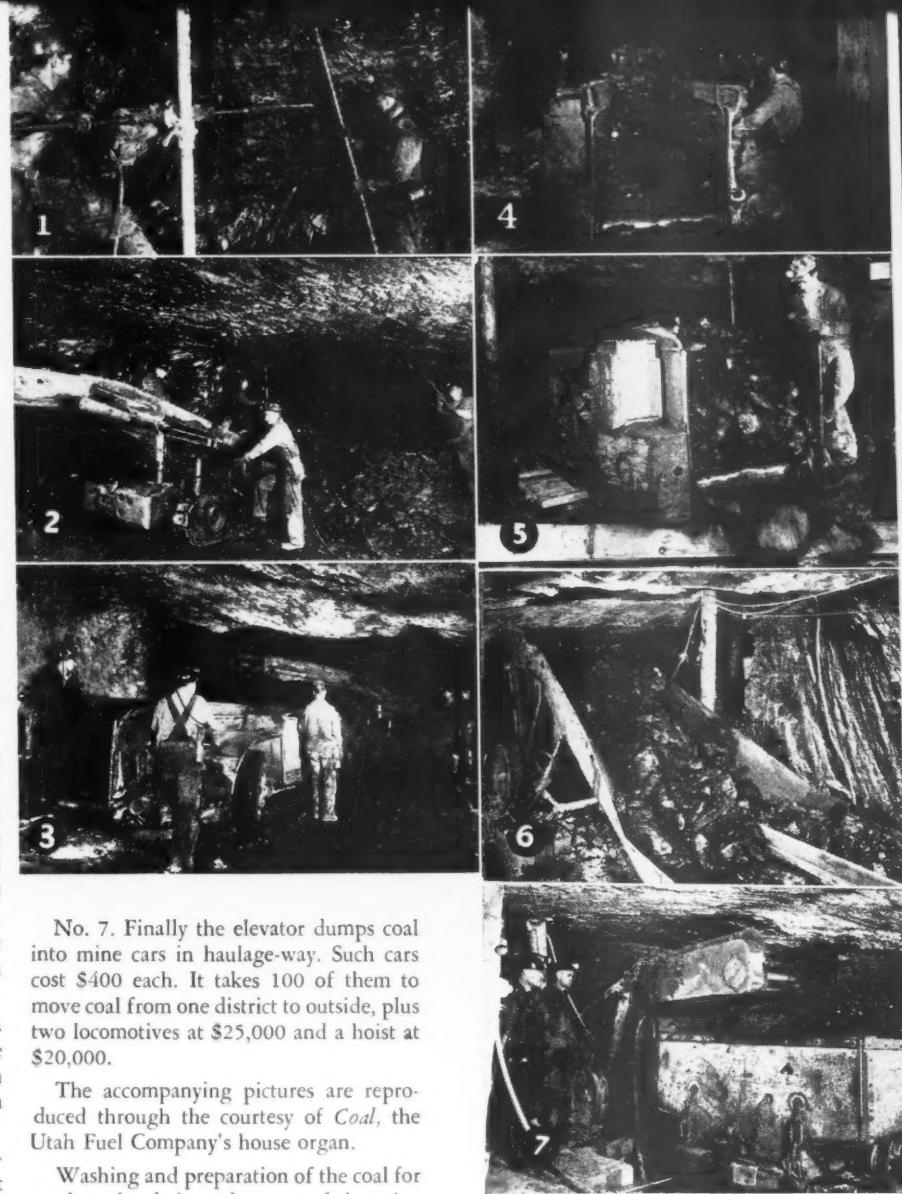
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# West Should Clarify Reconversion Basis

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You have undoubtedly been informed repeatedly that you will not get more war production on the West Slope, but that you will have an extraordinary increase in the tonnage that will pass through your ports. Even these suggestions are still largely speculation. But they seem logical.

Assuming the war in Asia must be expanded to the fullest extent of the plans of the Army and Navy, and that it will take from 18 to 24 months more to administer final defeat to the Japanese, your shipping facilities plainly must be used to a far greater extent. They think here that this means, out there you must increase your resources of handling, of assembly, of warehousing, railroading, trucking; that you will have need for more white collar workers, and that you must enlarge the supporting industries which maintain the machinery of shipping, and which are back of those who handle and process the shipping.

There has been speculation here about your added problems of housing, service trades, food, distribution, and retailing. But in any discussion about actual reconversion the best you get is the vague generalization that plants will go back to civilian production in all areas and regions on an equal basis.

## Bring Brass Tacks Along

No one here is ready to discuss clearly and in detail what might constitute an equal basis for the West Slope. It might be a good idea for your men of understanding, experience, knowledge, and mental substance, to give hard thought to the basis that will put the West Slope on an equal footing with the East, the Middle West, the Plains States, the Southwest, and the South, when reconversion really begins.

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When the battle of reconversion really starts you must supply your members of the Congress, and other Western representatives, with information that will give them more substance than the stuff that makes a bewilderment of figures, and is the launching platform for catchwords and shibboleths. You are getting a tragic licking in the fight over the Mexican Water Treaty because this was the kind of material you sent East. The miracle is that Senator Downey was able to make the astounding showing with the data and information that was supplied.

## Downey Gains in Stature

The Mexican Water Treaty fight in the Senate has stamped Downey with pure genius, and has made him one of the outstanding Senators of the nation, not only of today, but of many years. He has the clarity, directness, understanding, culture and lucidity that makes the most bewildering subject understandable to any one. And he has patience and courtesy and simlicity.

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The Armed Services also feel the war workers will not be out of a job until after the Japanese quit. If the war worker has no more to do in one job, he will find he is needed in another. The military assumes

that a cutback in one type of production will only mean that another type of make-over must be made.

It is my personal feeling that Army will be very cautious and go slowly in making cutbacks. Some calm-minded Government folk feel that most war plants will be kept in production, even if at reduced speeds, until the program for the Japanese war is recast, after VE-Day. It is anticipated these plants will retain their workers, since they are permitted, for a certain period, to keep their personnel at Government expense.

This period of slow-down is expected to follow VE-Day. The general impression is that the slow-down period will last from three to five, or, even six months. Most guesses limit the slack period to three months. It is during this time that Army, Navy, and other agencies will take a long breath, stand off and look at the whole picture, and make the plans for the final drive to beat the Japanese.

## No VE-Day in Reconversion

It is during this inevitable period that it is felt there will be some confusion, some bewilderment, and much inertia. Spot authorization is expected to be used to permit some very limited production for hardship civilian requirements.

Some plants are expected to try to swing back to broader civilian production, and some workers are expected to drift back home in an attempt to get placed early in peacetime jobs. But the controls will not be relaxed to any perceptible extent. There will apparently be few primary materials available except steel; and there will not be much steel if some military expectations are realized.

There are many hard-headed clear-thinking upper bracket business men in WPB who think there will be no formal VE-Day. They think VE-Day has already occurred and passed. They regard the period we are passing through as the transition out of which will come some relaxation to permit very limited production of urgently needed

(Continued on Page 52)

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.



## In the spirit of Paul Revere

It was not on the spur of the moment that Paul Revere rode to warn the sleeping country folk of danger. *He had been watching the British for two years.*

No one ordered Paul Revere to discover the secret of rolling copper and to set up a plant for doing it, in order to serve the new U. S. Navy. *It was his suggestion.*

No one commanded Paul Revere to cast cannon for the government, to manufacture gunpowder for the Army, to continue shaping lovely silverware for the newly-made American citizenry. These were just jobs that needed doing. *He undertook to do them.*

The spirit of Paul Revere was the spirit of enterprise—in the exact sense of the word's definition: an undertaking requiring boldness, energy and perseverance. And it is in that spirit that the business which he founded has been carried on. Through the

course of American history, we have steadily anticipated industry's demands for copper and copper-base products. We have steadily enlarged research, production and service facilities, and so have often enabled our customers to cut their costs or to improve their products.

We are pioneering today in the production of light metals in anticipation of changed requirements of industry when it finally begins to mobilize for peace. For the management of this business is determined to be ready to help you meet America's needs tomorrow, by having the right metal, at the right time, for the right price, available on instant call. To this end, we maintain most complete metallurgical data. This data is at your disposal without charge or obligation, for any post-war problem. Write to Revere Executive Offices, 230 Park Avenue, New York 17, N. Y.

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Downey is by no means a good mixer; he has not won social goodwill among the California delegation; but he is now one of the most respected and admired men the West has had here for many generations. He has the great instinctive skill of cutting away the meretricious and irrelevant. You will need men of the stature of Downey here in the days to come. There appears to be more than the immediacy of reconversion in the debate about the impending switch from war economy to normal economy.

It has been no secret here that the Army and Navy "are holding firm to their contention that until Japan is beaten the output of American factories must stay geared to the needs of war," as recently reported by the Associated Press. The Army and Navy do not agree with WPB Director Krug that every civilian product will be back in production within a year after VE-Day.

The Armed Services also feel the war workers will not be out of a job until after the Japanese quit. If the war worker has no more to do in one job, he will find he is needed in another. The military assumes

that a cutback in one type of production will only mean that another type of material must be made.

It is my personal feeling that Army will be very cautious and go slowly in making cutbacks. Some calm-minded Government folk feel that most war plants will be kept in production, even if at reduced speed, until the program for the Japanese is recast, after VE-Day. It is anticipated these plants will retain their workers, since they are permitted, for a certain period, to keep their personnel at Government expense.

This period of slow-down is expected to follow VE-Day. The general impression is that the slow-down period will last from three to five, or, even six months. Most guesses limit the slack period to three months. It is during this time that Army, Navy, and other agencies will take a long breath, stand off and look at the whole picture, and make the plans for the final drive to beat the Japanese.

## No VE-Day in Reconversion

It is during this inevitable period that it is felt there will be some confusion, some bewilderment, and much inertia. Spot authorization is expected to be used to permit some very limited production for hardship civilian requirements.

Some plants are expected to try to swing back to broader civilian production, and some workers are expected to drift back home in an attempt to get placed early in peacetime jobs. But the controls will not be relaxed to any perceptible extent. There will apparently be few primary materials available except steel; and there will not be much steel if some military expectations are realized.

There are many hard-headed clear-thinking upper bracket business men in WPB who think there will be no formal VE-Day. They think VE-Day has already occurred and passed. They regard the period we are passing through as the transition out of which will come some relaxation to permit very limited production of urgently needed

(Continued on Page 52)

**One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.**



## In the spirit of Paul Revere

It was not on the spur of the moment that Paul Revere rode to warn the sleeping country folk of danger. *He had been watching the British for two years.*

No one ordered Paul Revere to discover the secret of rolling copper and to set up a plant for doing it, in order to serve the new U. S. Navy. *It was his suggestion.*

No one commanded Paul Revere to cast cannon for the government, to manufacture gunpowder for the Army, to continue shaping lovely silverware for the newly-made American citizenry. These were just jobs that needed doing. *He undertook to do them.*

The spirit of Paul Revere was the spirit of enterprise—in the exact sense of the word's definition: an undertaking requiring boldness, energy and perseverance. And it is in that spirit that the business which he founded has been carried on. Through the

course of American history, we have steadily anticipated industry's demands for copper and copper-base products. We have steadily enlarged research, production and service facilities, and so have often enabled our customers to cut their costs or to improve their products.

We are pioneering today in the production of light metals in anticipation of changed requirements of industry when it finally begins to mobilize for peace. For the management of this business is determined to be ready to help you meet America's needs tomorrow, by having the right metal, at the right time, for the right price, available on instant call. To this end, we maintain most complete metallurgical data. This data is at your disposal without charge or obligation, for any post-war problem. Write to Revere Executive Offices, 230 Park Avenue, New York 17, N. Y.

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## KRUCKMAN (Cont'd from Page 50)

civilian supplies, and which will be punctuated by announcement of revised production plans for the enlarged Japanese war.

The ideas about reconversion among these WPB business leaders are honestly confused. Those who come from the category of fabricators, manufacturers, wholesalers, feel virtually all major controls will be removed by late fall or winter. Those who have to do with retailing and distribution feel there should be relaxation, but are not as insistent about it as those on the next level.

But those engaged in any primary ac-

tivity of industry or service very definitely do not believe that controls should be wiped out. These fundamentalists in the chain of business are sold on the idea that controls must remain, and are here to stay after the war, permanently. They are convinced that controls are essential to avoid inflation, scrambles, and chaos. They feel the new world to which we are passing by means of this stupendous travail, will inevitably be a more scientifically regimened world.

It is curious that the men of this segment of the economy, who dominate the vaster units in business, should reach a meeting of minds with the masses who are supposed to be enthusiastic about the con-

trols which have presumably raised their standards of living and increased their income and their security. And, of course, they appear to be in broad agreement with the men from the schools, the men of abstract logic and social ideals.

Byrnes is a realistic logician, a sort of political Bacon. Vinson, his successor, is regarded as closer to the mental processes of those who make the Administration function. The impression is that he will not be in too great haste to relax the controls.

Most of us here do not look for material reduction in controls. They appear to be a logical part of the future, particularly if the elections next year confirm the gait of those who are following the stride of the Administration. The results of the 1946 Congressional elections, when all members of the lower House must defend their claims to their posts, are apt to be decisively illuminating.

Watch the result of the recalcitrance of the laundry operators in declining to comply with the WMC regulations; and watch the 1946 maneuvers and elections. Obviously, the destiny hidden in the unexpected developments of the war may change the direction we are travelling.

### Rags to Riches: Deathbed to Diesels

Before the war you couldn't give most Western short line railroads away, but look at them now! For example, take the Tonopah & Goldfield Railroad, extending from Mina to Tonopah and Goldfield, which Louis Dulien, president of the Dulien Steel Products Company, brought for the purpose of junking it.

Before he could tear up the rails, business created by the war increased traffic tremendously, and now the railroad is a highly profitable concern. He has even purchased two diesel locomotives for the line, and, as everyone knows, diesels cost dough.

Now Mr. Dulien says construction of a railroad link between Goldfield and Las Vegas, restoring the long dismantled Las Vegas & Tonopah Railroad, is vital to the postwar development of southern Nevada.

"The area from Goldfield south offers important possibilities for mining development and you can't haul ores and concentrates by truck\*. A railroad is needed if this development is to go ahead," Mr. Dulien pointed out.

"Besides, this is the only unconstructed portion of a route from the northwest to Los Angeles on the eastern slope of the Sierra. This is the shortest in miles and would relieve the congestion that's always present on the coastal routes," he declared.

\*Editor's Note: Mebbe so, but the trucks are what put most of the short-line railroads on the rocks.



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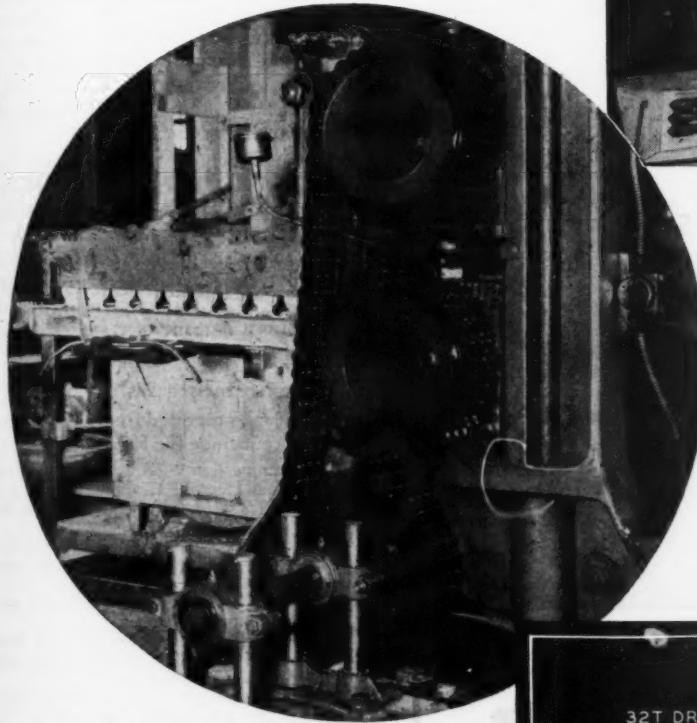
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③ IT'S A HUSKY DRIVE as this drive arrangement shows. Whenever power is to be transmitted economically and efficiently without waste, Baldwin-Rex Roller chain belts can do the job. They have high shock-absorbing ability and are not adversely affected by dust or grease. Their ease of installation and effective operation regardless of center distances make them ideal for all types of power transmission work.

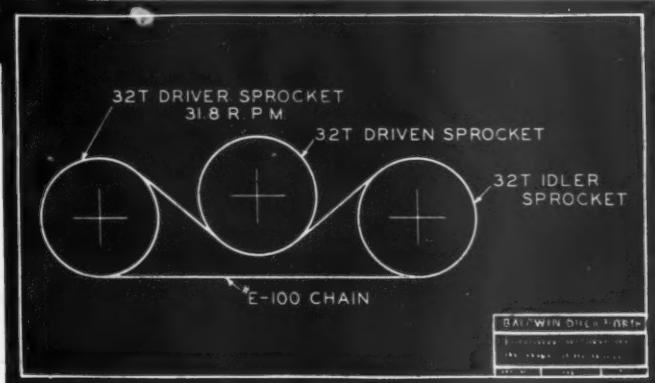


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② THIS CALENDER DRIVE, for example, has the extra strength and stamina that a positive drive needs. The triple strand of Baldwin-Rex doing the driving keeps the power flowing. There's no slipping here to waste power and time . . . no jerky, uneven power transmission. Turning those heavy rolls is child's play for husky Baldwin-Rex. It really stands up in tough service.



For catalogs on Baldwin-Rex Roller chain belts or competent information on your specific drive problems, write BALDWIN-DUCKWORTH Division of CHAIN BELT COMPANY, 352 Plainfield Street, Springfield 2, Mass., or call your local Baldwin-Rex representative.

# RFC Surplus Property Sales Get Under Way

**A**LL Government-owned surplus property sales made by the Reconstruction Finance Corporation, no matter how small or how high the dollar amount involved, will be open to public inspection, John S. McCullough, Jr., Manager of the RFC Disposing Loan Agency of San Francisco, announced.

"The Government's Goldfish Bowl policy will be implemented with respect to RFC transactions in Government surplus property in several ways," Mr. McCullough explained. "Sales lists will be supplied to newspapers, trade journals and other interested publications, and to Chambers of Commerce and other trade organi-

zations. In addition, lists will be posted on public bulletin boards in RFC Agency offices.

"These records will list a general description of each item sold, its condition—whether used, new, obsolete, damaged, or reconditioned — acquisition cost, sale price, to whom sold, and the address.

"A detailed record of individual transactions, supplying all bids, whether successful or not, time, place and type of sale, and other information will be available for inspection at the RFC Agency offices upon request.

A teletypewriter exchange service has recently been installed which not only connects all RFC agencies with each other and with the Washington office, but also with Army and Navy installations and all industrial and governmental offices, which are located in this country, having teletypewriter service.

Disposal depots, where machine tools and materials needed in war production will be placed for quick conversion into other war use, have been established at Riverbank and Torrance, California, Seattle and Denver. At Riverbank the DPC aluminum plant formerly operated by the Aluminum Company of America is being used for the purpose.

## San Francisco District Sales

Recent sales reported from the San Francisco office include the following:

2390 ft. pipe, 6-in. I.P.S. Std. Steel Black Lap-weld Random lengths P.E. with plain ends, new; \$2428.24—Food Machinery Corporation, San Jose.

Black & Decker Ball Bearing Grinder, 8-in. used, \$35.00—Fred W. Ferguson's Electroplating Shop, Modesto.

Columbia 4-in. Bench Vise No. 504, used, \$7.50—Modesto Trading Co.

Electric Drill, Black & Decker 1/2-in. heavy duty electric drill with Jacobs chuck, used, \$32.50—Modesto Trading Co.

1756 lbs. Pendine Reclaiming Oil No. 360—Goodyear Tire & Rubber Co. of Calif.

Generator Diesel engine-driven skid mounted caterpillar, Model 34-155, 15 K.W. caterpillar engine, used, \$1017.50—Miller & Stoughton, Thorn, Nev.

Generator Set, elec. gasoline engine driven skid mounted Onan, used, repairs required, \$48—Fred Reinecker, San Francisco.

Generator Set, portable elec. skid mounted, DC gas eng. driven, Marble Card Elect. Co., used, repairs required, \$50—Fred Reinecker, San Francisco.

Motor, Briggs & Stratton, gas model ZL, used, repairs required, \$50—Fred Reinecker, San Francisco.

Bender, Alamo, Rotary, used—\$975—San Jose Steel Co., San Jose.

Bender, Alamo, Rotary, used—\$975—San Jose Steel Co., San Jose.

Bender, Kardong, Stirrup, used. \$385—San Jose Steel Co., San Jose.

Bender, Kardong, Circle, used, \$395—San Jose Steel Co., San Jose.

Black & Decker elec. drill, 5/8-in. capacity, used, \$70—Marvin McConnell, Modesto.

Kinney vacuum pumps and V belt drive and separator tank, used, reconditioned, \$612—L. B. Williams Food Research Institute, San Francisco.

"Frees" drying oven, size 601, style "A," used, \$258—E. & J. Gallo Winery, Modesto.

500 lbs. No. 18 Annunciator, Single No. 18

## Ingenious New Technical Methods

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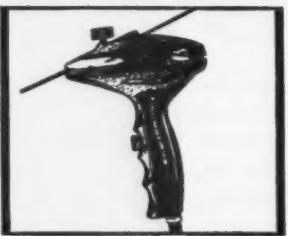
### Highly Versatile "Pencil Weld Gun" Welds Cold...Corrects Flaws and Defects ...Saves Man Hours, Materials

The Pencil Weld Gun, used with its Vibra-Weld Transformer, offers simplicity and versatility never before known in the industry. Equally effective in correcting flaws and defects in both ferrous and non-ferrous metals—for welding cold, without setting up stresses or crystallization.

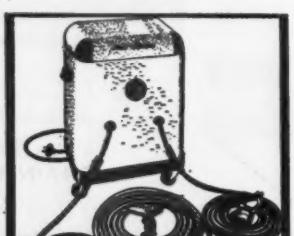
Simple in Operation, the Pencil Weld Gun requires but a few moments' practice to achieve results formerly unobtainable with any method. Utilizing a combination of air, high amperage and low voltage, the weld never exceeds 125° to 130° F. The gun uses a pure aluminum or nickel rod, which is applied directly to the defective area. When the surface has been finished and polished off, it is impossible to detect the repair. Easy to use, as gun peens and welds simultaneously. The Pencil Weld Gun and Vibra-Weld Transformer can be used wherever 220 volt single phase electricity and air outlets are available.

Unavailable, however, is Wrigley's Spearmint Gum. As the makers of Wrigley's Spearmint are unable to continue manufacture of the product up to their quality standards under present conditions, the only unqualified protection they can give to the consumer and the dealer alike is to keep the Wrigley's Spearmint wrapper empty. While they advertise this empty wrapper, none is being made and any found on the market is old production of a perishable product.

You can get complete information from  
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2429 South Michigan Avenue, Chicago 16, Illinois



Close-up of new Pencil Weld Gun



Pencil Weld Gun with Vibra-Weld Transformer

Z-66

AWG solid copper double cotton covered, new, \$128—Lavenson & Sevasta, San Francisco.  
1000 lbs. wire, Announcer, single No. 18 AWG solid copper double, cotton covered, new, \$256—Incandescent Supply Co., San Francisco.  
504 lbs. wire, Announcer, single No. 18 AWG solid copper double, cotton covered, new, \$129.02—Phillips & Edwards Electric Co., San Francisco.

Compressor, Chicago 315 C.F.M., used, \$2541.94—Barrett & Hilp, San Francisco.

Welding Machine Lincoln 400 Amp. with std. accessories, used, \$824.84—Barrett & Hilp, San Francisco.

9750 lbs. square steel bar, heat treated, new, \$324.68—Coulter-Sibbett Steel Co., Oakland.

4000 lbs. square steel bar, heat treated, new, \$133.20—Coulter-Sibbett Steel Co., Oakland.

Model No. 50 air guard ivory finish air filter, used, \$87.56—Cutter Laboratories, Berkeley.

Eight gasoline engines, Fairbanks-Morse, 3 h.p., used, \$286—Specialized Diesel Repair Service, Sacramento.

Gasoline engine, LeRoi model, 15 h.p., used, \$88—Specialized Diesel Repair Service, Sacramento.

Gasoline engine, Stover model, used, \$60—Specialized Diesel Repair Service, Sacramento.

2 gasoline engines, Stover model, used, \$101—Specialized Diesel Repair Service, Sacramento.

2 gasoline engines, Stover model, used, \$75—Specialized Diesel Repair Service, Sacramento.

Gasoline engine, Fairbanks-Morse, used, \$33.25—Specialized Diesel Repair Service, Sacramento.

Gasoline engine, Hercules, used, \$60—Specialized Diesel Repair Service, Sacramento.

2 gasoline engines, Wisconsin, used, repairs required, \$250—Specialized Diesel Repair Service, Sacramento.

Gasoline engines, Stover, used, repairs required, \$110—Specialized Diesel Repair Service, Sacramento.

1000 lbs. No. 18 Announcer, Single No. 18 AWG solid copper double cotton covered, new, \$256—Baker & Hamilton, San Francisco.

4837 sheets plastic cellulose acetate transparent topographic, one side grained, sheet .015 x 10 x 10 in., new, \$280.55—V. W. Bush Mfg. Co. So. Lyon, Michigan.

861 lbs. No. 18 single Announcer wire, new, \$220.42—The Electric Corp., San Francisco.

54,000 bronze safety clips, new, \$226.80—Washburn Company, Worcester, Mass.

1000 lbs. No. 18 single Announcer wire on 7 lb. spools, new, \$256—General Electric Supply Co., San Francisco.

Diesel engine driven generator, used, repairs required, \$1050—Alling Shipbuilding Co., Sacramento.

1000 lbs. No. 18 single Announcer wire on 7-lb. spools, new, \$256—Graybar Electric Co., Inc., San Francisco.

Tannevitz band sawing machine, used, \$791.80—Pacific Mfg. Co., Santa Clara.

24 flanges, WNRJ 10-in., new, \$204—Chas. S. James, San Francisco.

Engine driven generator, used, \$200—Specialized Diesel Repair Service, Sacramento.

Engine driven generator, used, reconditioned, \$175—Specialized Diesel Repair Service, Sacramento.

Motor generator, 110 V AC 600 W, used, \$65—N. M. Alling, Sacramento.

Gas engine, six cylinder, used, repairs required, \$125—Specialized Diesel Repair Service, Sacramento.

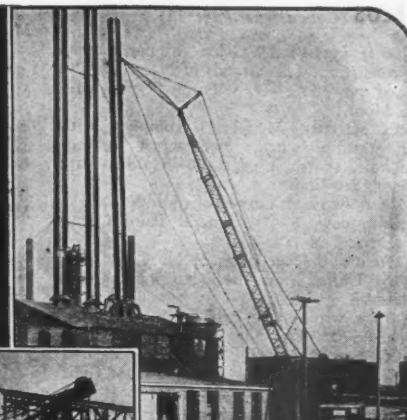
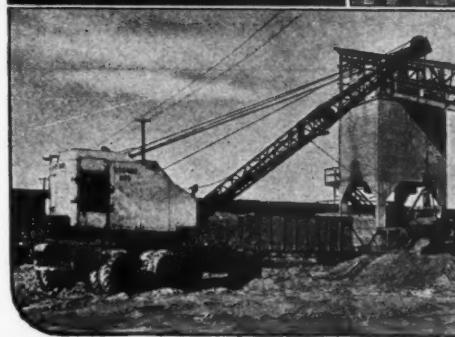
3 motor generators, comprising a Briggs & Stratton gasoline engine, AP type, direct connection, used, \$210—N. M. Alling, Sacramento.

Engine driven generator, skid mounted, Fidelity Electric 3 KW 5 HP W/Atlas Landova engine, used, \$275—Sacramento City Unified School District.

3,291 eis: 3/8 in. 90 scrd. brass 125 lb., new, \$830.98—Grinnell Company, San Francisco.

(Continued on Page 56)

## HEAVY HUSTLING is routine----



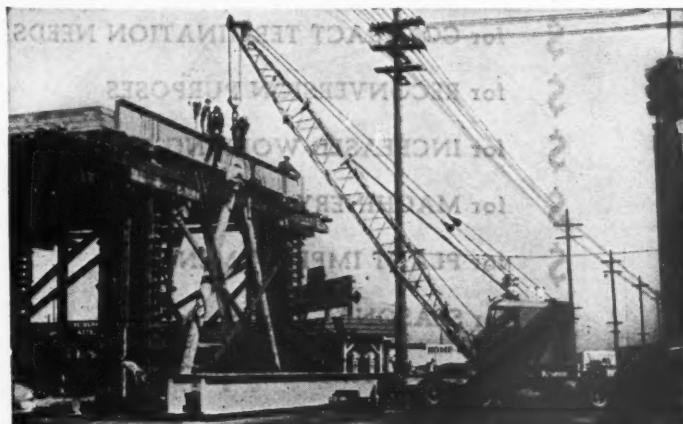
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**WALLING TRACTOR & EQPT. CORP.**, Portland  
**M. M. McDOWELL & SONS**, Seattle  
**POWER EQUIPMENT COMPANY**, Denver, Colo.  
**SMOOT MACHINERY CO.**, Salt Lake City

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MARION, OHIO  
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THE GENERAL EXCAVATOR CO.  
MARION, OHIO  
**SUPERCRAINES**

**SURPLUS** (*Cont'd from Page 55*)

2,000 ft. No. 14 AWG bare copper antenna wire, consisting of 16 strands of No. 26 AWG stranded, new, \$12—U. S. Forest Service, Missoula, Mont.

Rotex screener, Model 43, complete with motor, starting switch, reset switch and enclosed knife switch, used, \$400—Golden State Company, San Francisco.

243 gallons paint, canvas, olive drab in 1-gal. containers, new, \$147—General Paint Corp., San Francisco.

55,250 lbs. Calcene pigment No. 128, new, \$828.75—United States Rubber Company, Los Angeles.

5,000 lbs. wire, music, cold finish 1086, dim. .0787, 24-370, new, \$1,050—Connor Spring Mfg. Co., San Francisco.

4.180 lbs. wire, music, cold finish, 1086 dim.

.0551, 24-271, new, \$961.40—Connor Spring Mfg. Co., San Francisco.

3,500 lbs. wire, music, cold finish, 1086 dim. .0512, 24-247, new, \$857.50—Connor Spring Mfg. Co., San Francisco.

6,000 lbs. wire, music, cold finish, 1086 dim. .03937 24-161, new, \$1,620—Connor Spring Mfg. Co., San Francisco.

2,000 lbs. wire, music, cold finish 1086, dim. .03937 24-161, new, \$540—Connor Spring Mfg. Co., San Francisco.

1/4-in. low speed Black & Decker Holgun electric drill with chucks. 1/4 cap, used, \$18—George Kerwin, Modesto.

Scroll grinder, Navy tag 14A, used, \$1.500—Caterpillar Tractor Co., San Leandro.

400 gal. Amine, Alkylated Tertioly, 80 in 5-gallon cans, new, \$1,530—Turco Products Inc., Los Angeles.

20,000 lbs. rod, standard, round HR annealed, special dim. 1.654 in., new (poor), \$1,000—Joost Mfg. Co., Berkeley.

Generator. Reliable Electrical Works, DC, 1000 watt, 125 volt, W/2 HP 1800 RPM, 3 phase Westinghouse motor, used, \$50—U. S. Dept. of Interior, Fish & Wildlife Service, Berkeley.

154,463 bronze safety clips No. 5, new, \$648.75—L. A. Young Spring & Wire Corp., Oakland.

42,000 lbs. plaster, magnesia, new, good condition, \$1,995—Western Asbestos Company, San Francisco.

960 ft. pipe, wrought iron, with coupling, new, excellent condition, \$321.31—Western Plumbing Supply Co., Stockton.

3,280 ft. pipe, wrought iron, with couplings, new, excellent condition, \$1,435.66—Western Plumbing Supply Co., Stockton.

1 Universal cutter and tool grinder, incl. attachments, used, excel. condition, \$1,518.66—Horspool & Romine, Oakland.

1 wire mold, 11/32 x 1/2 in., new, good condition, \$10—Modern Equipment Company, Tulare.

1 Mobilift warehouse truck (gas), used, in good condition, \$1,000—Eureka Mfg. Co., Eureka.

13 flanges, W.N.R.J. 10 in. 300 lbs., new, excellent condition, \$110.50—Charles S. James, San Francisco.

24 flanges, W.N. groove, 10 in. 300 lb., new, excellent condition, \$204—Charles S. James, San Francisco.

30,800 plug attachments (bakelite) new, in good condition, \$770—General Electric Supply Corp., San Francisco.

700 cords, electric extension, with fittings, new, good condition, \$224—General Electric Supply Corp., San Francisco.

1 "Lincoln" welder, used, excellent condition, \$403.90—W. H. Cowen, San Francisco.

1,750 lbs. reclaiming oil, new, excellent condition, \$106.94—Goodyear Tire & Rubber Co. of California.

5,000 ft. tubing, 3/4 in., copper, new, excellent condition, \$650—Brookings Water Co., Brookings, Oregon.

99 gas engines, used, fair condition, \$1,086.75—Specialized Diesel Repair Serv., Sacramento.

One lot of parts for gas engines, used, fair condition, \$30.09—Specialized Diesel Repair Service, Sacramento.

1 saw, table tilting, Superior (gas), used, fair condition, \$247.50—Specialized Diesel Repair Service, Sacramento.

1 saw, table tilting, Superior (gas), used, fair condition, \$247.50—Specialized Diesel Repair Service, Sacramento.

182,700 lbs. 3/4-in. round steel rod, new, excellent condition, \$3,744.74—Gilmore Fabricators, Inc., Oakland.

19,780 lbs. 5/16-in. H.R. steel rounds, new, poor condition, \$397.40—Gilmore Fabricators, Inc., Oakland.

1 compressor (no motor), used, fair condition, \$20—Machinery & Equipment Company, San Francisco.

1 turret lathe, 18 in., used, poor condition, \$1,018.00—Given Machinery Co., Los Angeles.

2 turret lathe, 36 in., used, poor condition, \$1,018—Given Machinery Co., Los Angeles.

2,028 fl. qt. ammonium hydroxide, new, excellent condition, \$172.38—Crown Products Company, San Francisco.

117,000 lbs. lime, chlorinated, new, fair condition, \$1,755—Getchell Mine, Inc., Reno.

5,500 lbs. lime, hydrated, new, in excellent condition, \$27.50—Southern Pacific Milling Co., San Luis Obispo, Calif.

189 bends, 3 in., std. galv., new, excellent condition, \$368.55—Grinnell Co., Oakland.

1 screen, vibrating, used, fair condition, \$175—Machinery & Equipment Co., San Francisco.

1 conveyor, rubber belt, used, good condition, \$275—Machinery & Equipment Co., San Francisco.

Seattle Shows

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## Seattle Sales Pool Shows Postwar Trend

An apparent indication of the means by which many smaller Western manufacturing organizations will find their place in the postwar set-up is the step taken in the formation of Production Associates at Seattle for national distribution of Pacific Northwest industrial products.

It is a pool of 13 firms to canvass the national field for large orders that can be parceled out among member plants and delivered to customers as completed units of machinery or other equipment. They hope thus to maintain their present high rate of activity and employment and even expand it after the war.

Advantages offered to buyers throughout the country will be a portfolio of diversified industrial products and, through coordinated production schedules, more prompt deliveries than if orders were placed with individual plants. To the members of the pool it provides an opportunity to engage in market research and to retain the best planning and production skills in the individual plants.

Mark R. Colby, president of Colby Steel & Engineering Company of Seattle is president of the new organization. Wayne M. Haines, head of a Seattle machine works bearing his name, will, as managing director, have charge of the office that has been opened in the Central Building. J. S. Carswell, with offices in San Francisco, New York and Washington, will act as national sales representative. R. S. Polister, vice-president and secretary of the Ketchum Wire & Manufacturing Company, is vice-president of Production Associates, and C. B. MacDougall, president of Nemco Electric Company, will serve as treasurer.

Other firms included in the nucleus of the organization are the Eagle Brass Foundry Co., Seattle Lighting Fixture Company, Morel Foundry, Ballard Plastics Corporation, and Prescott Iron Works, all of Seattle; George R. Marvin Company, Washington Steel & Welding and Heatlox Furnaces, Inc., of Tacoma, and Skagit Steel & Iron Works of Sedro Wooley.

## Veterans Business Loans Arranged

The necessary machinery for processing applications by veterans of World War II for business loans under the Servicemen's Readjustment Act of 1944 has been set up in the San Francisco, Los Angeles, Portland, Seattle, Spokane, Salt Lake City, Denver and other offices of the Reconstruction Finance Corporation.

Loans applied for may be used in purchasing any business, supplies, equipment, machinery or tools to be used by the veteran in pursuing a gainful occupation. The Government may guarantee repayment of such loans to the extent of 50 per cent but not in an amount exceeding \$2,000 as its maximum guaranty.



Only a few years ago, the drinking fountain stood alone. Today, in practically all leading industrial plants, it has a partner, the salt tablet dispenser. For, wherever men work—and sweat—water and salt go together.

Salt is a balance wheel in the human body. It keeps body fluids in equilibrium and gives tone to the blood. When salt is lost the body becomes dehydrated and the blood thickens. The result is Heat-Fag, lassitude, inalertness. Production suffers and accidents increase.

The easy, simple, sanitary way to replace the salt lost through sweat is with Morton's Salt Tablets. It costs less than a cent a man a week to have them available at every drinking fountain.

In salt tablets, as with other grades and types of salt, Morton is the recognized leader. Order Morton's Salt Tablets and Dispensers from your distributor or directly from this advertisement. Write for free folder. Morton Salt Company, 310 South Michigan Avenue, Chicago 4, Illinois.

### MORTON'S SALT TABLETS

Morton's Salt Tablets are available either plain or with dextrose.

Case of 9,000, 10-grain salt tablets - - - - - \$2.60

Salt Dextrose Tablets, case of 9,000 - - - - - \$3.15

### MORTON'S DISPENSERS

They deliver salt tablets, one at a time, quickly, cleanly—no waste. Sanitary, easily filled, durable.

800 Tablet size - - \$3.25



**MORTON'S SALT TABLETS**

# WESTERNERS AT WORK...

## California

M. A. Clevenger succeeds Preston McKinney as executive vice-president Canners League of California. Mr. McKinney remaining on a part-time basis as a vice-president in advisory capacity. . . . Clarence Smith of Smith Bros. Truck Co. elected president of Motor Truck Association of Southern California. . . . Independent Refiners Association of California elect C. A. Johnson, president; Henry Brown, first vice-president; Clifford Hancock, second vice-president; A. M. Lockhart, secretary-

treasurer; D. B. O'Neill continues as general manager. . . . George A. Davies, president Eccles & Davies Machinery Co., Los Angeles and southern California representative of Lester-Phoenix Inc., Cleveland, appointed machinery dealers' representative of Society of Plastics Industry, New York City. . . .

Carl M. Friden, Friden Calculating Machine Co., Inc., San Leandro, elected on committee of Office Machine Manufacturers Industry Advisory Committee, OPA. . . . B. A. "Bud" Gillies, formerly vice-

president Grumman Aircraft Engineering Corporation for ten years, appointed assistant to president and director of Flight and Service, Ryan Aeronautical Company, San Diego. . . . W. P. Roth elected chairman of board of Matson Navigation Co., retiring as president and succeeded by F. A. Bailey, former executive vice-president; George G. Montgomery, vice-president of Castle & Cooke, Ltd., and director of Matson elected chairman of new executive committee continuing in charge of San Francisco office of Castle & Cooke. . . .

Captain Arthur E. Paulson, former San Francisco Bay shipping executive serving with the Army in Aleutians for last several years, assigned to San Francisco Port of Embarkation for duty in Marine Operations Branch, Water Division. . . . Plant Rubber & Asbestos Works, San Francisco, announce following changes in personnel: Rubin Lewon appointed manager of research; Louis L. Collonge, superintendent of "Precision Molded" 85% Magnesia plant at Emeryville; E. Fred Karklin superintendent Redwood City plant and salt works operations; Walter Rohde manager of production control with headquarters in San Francisco; Victor Sagues continuing as superintendent of San Francisco factory. . . .

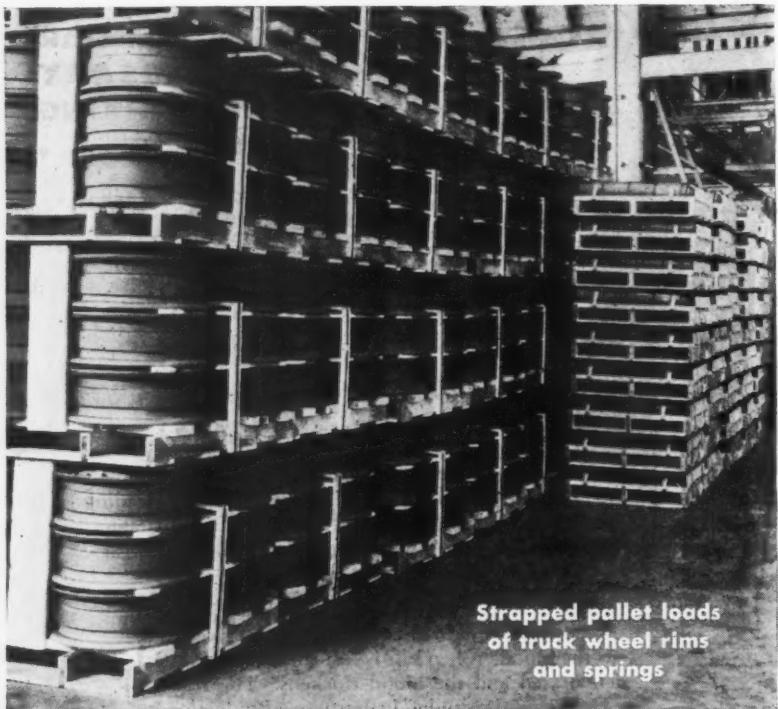
J. H. Farry, of Tide Water Associated Oil Company, elected president Export Managers Association of San Francisco, and C. T. Jones special representative in export department, named vice president of the Association. . . . Harvey E. Stowers, recently resigned from Lockheed Aircraft Corporation appointed as special assistant to president of Aeronautical Chamber of Commerce of America for the western United States. . . . Harold D. Weber, general manager of Oakland Chamber of Commerce elevated to post of general chairman of Pacific Coast Transportation Advisory Board. . . . C. S. Herbert, formerly with Ernst & Ernst, elected vice-president Enterprise Engine & Foundry Company, San Francisco. . . . Captain Wilbur J. Ruble, USN, succeeding Capt. Thomas W. Mather, USN, made inspector of naval material, San Francisco area. . . . Ole Berg, Jr., and W. A. Newhoff, elected vice-presidents of Union Oil Company of California. . . .

## Colorado

W. H. Leonard, president Gardner-Denver Company, Denver, now acting as co-chairman of Governor John C. Vivian's postwar planning committee. . . . G. H. Garrett, vice-president and chief engineer Thompson Pipe & Steel Company, Denver, appointed chairman Denver Chamber of Commerce committee on postwar industrial development. . . .

## Montana

G. A. Miller, Kalispell Lumber Co., Kalispell, elected president Montana Lum-



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of truck wheel rims  
and springs

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A pallet, like a skid, is a platform built to support a number of containers or products which, when strapped together, form a *unit load*.

Pallet loading conserves manpower by reducing the number of units handled—in packing, loading, warehousing, and unloading. Pallet loading conserves container and packaging materials; con-

serves space—in warehouses, freight cars and ships. Throughout, pallet loading protects against damage.

Acme engineering is cooperating with the Armed Forces in pallet loading, and effecting the same economies for war-time shipping as applied in the past to the movement and handling of peace-time production.

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ber Manufacturers; H. C. Karow of H. C. Karow Lumber Co., Kalispell, made vice-president; J. H. Hawkins, Kalispell Lumber Co., secretary; and Marice E. Boorman, treasurer. . . .

#### Nevada

Martin C. Duffy succeeding the late Ed Lembcke, elected president Goldfield Deep Mines Co.; Tim Connolly named vice-president; Mary Noone Clark, secretary; and John Boesch and Peter Breen additional directors. . . . George W. Mitchell resumes duties as consulting engineer for Eureka Corporation, Eureka. . . .

#### Oregon

Bert D. Harden, for four years with Basic Magnesium, Inc., Las Vegas, as reduction plant superintendent, made general superintendent of alumina plant operations of Chemical Construction Corporation, Salem. . . .

Western Pine Association, Portland, announces following new officers and directors: President, A. J. Strange, Mt. Emily Lumber Co., La Grande; vice-presidents, R. A. Colgan, The Diamond Match Co., Chico, and H. B. Jamison, Byles-Jamison Lumber Co., Fresno; treasurer, C. A. Lighthall, Oregon Lumber Co., Baker; secretary-manager, S. V. Fullaway, Jr. . . .

#### Utah

Bion Tolman, a research worker for U. S. Department of Agriculture, sugar plant investigation, since 1936 has been appointed research director of Utah-Idaho Sugar Co. . . . C. P. Humphrey, engineer for Morrison-Knudsen Co., Boise, Idaho, elected president Idaho Society of Engineers. . . . Mark Tuttle, manager intermountain branch, Associated General Contractors, elected president of Utah Highway Users' Association, succeeding late Fred H. Richardson. . . . Joseph J. Cannon, Salt Lake City, and Aaron Tracy, Ogden, appointed members Utah Department of Publicity and Industrial Development. . . .

#### Washington

Edward C. Wells, chief engineer of Boeing Aircraft Company selected as winner of the 1944 Fawcett Aviation Award. . . . Roderic Olzendam, public relations director Weyerhaeuser Timber Co., Seattle, appointed to editorial staff *Reader's Digest*. . . . O. A. Tucker, vice-president and general manager of Tacoma division of Todd Pacific Shipyards resigns to become president and general manager of Pacific Iron & Steel Works, Tacoma, and is succeeded by R. J. Lamont, Seattle, Todd Pacific president. . . . Dr. Clark Kerr, vice chairman of Pacific Northwest Regional WLB and assistant professor of economics at University of Washington named chairman and public member of WLB's new meat packing commission with headquarters in Chicago and will resign the Seattle position to go to Chicago soon.



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AIRCORD, SWAGED TERMINALS AND ASSEMBLIES • AERIAL WIRE ROPE SYSTEMS • ROUND  
AND SHAPED WIRE • ELECTRICAL WIRES AND CABLES • WIRE CLOTH AND NETTING

# REGIONAL REVIEWS

## COLUMBIA EMPIRE

**A** SCRAMBLE between labor and industry over disposition of Oregon's war-swollen \$63 million state unemployment compensation fund took the eye of industry in first months of 1945. The argument has been settled by mutual agreement at the Oregon legislature and employers and labor are both sitting back this month to see what the outcome will be.

Industry has had to pay stiff penalty rates

under circumstances that involve laying off personnel and consequent greater payments by the state from funds handled by the unemployment compensation commission.

Labor was highly interested in keeping the fund to sizable proportion and increasing payments to unemployed workers. All forecasts earlier in the year were for a hectic battle in the legislature.

But informed observers were badly

fooled. The lion and the lamb lay down together and both went home to tell of the battle each won.

One of the 43rd legislative assembly's measures protects employers from unemployment penalty rates. Under the former setup, when the fund dropped to the \$30 million mark employers would have automatically started paying penalty rates they emphatically didn't want, according to official legislative explanation. So labor and industry reached an agreement and decided to meet major employer requests on that issue.

On the other side of the fence, labor's increased unemployment payments were also allowed, but not to the full extent asked. Both sides compromised in an amicable settlement.

### Larger and Quicker Benefits

New provisions increase unemployment benefits from the former \$15 for 18 weeks to \$18 for 20 weeks and the waiting period before compensation can be drawn was dropped from two weeks to one. The state commission estimated these new provisions would increase payments by 45 per cent with the shortened waiting period filling most of the boost.

What will happen to the \$63 million fund when war work begins to taper seriously and large numbers of employees are laid off pending reemployment in peacetime jobs remains to be seen. If it appears too many concessions have been made to labor and industry, the next legislative session in 1945 will reconsider.

Also on the employers' side in new legislation is a so-called special injury fund created from funds held by the Oregon Industrial Accident Commission. Penalty rates are charged employers for this fund based on the amount and cost of accidents.

### Better Deal for Employees

Under the "special injury" provision, \$500,000 is set aside from regular accident funds, and employers with an unfortunate serious accident or a bad series throwing them into the higher payment brackets will be given some relief from penalties. Many employers, including most of the lumbering and logging high hazard industry, have been allegedly forced out of state coverage into private insurance in order to receive lower rates. Lloyds of London and similar companies have been taking these cases and could afford to charge lower because accidents that boosted many of the former state carriers were "out of the ordinary."

A small sawmill with an excellent record might have a fatal accident and as a result be forced to pay the penalty rate although its previous record had been excellent.

Under this new plan, the employer is charged with responsibility against his accident rating for the first \$1,000 cost of the accident. The remaining cost is divided between the employer and the special in-



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jury fund with a consequent reduction in costs charged against the employer's account and a net lower penalty rate to be paid into the accident fund.

#### Full Blast at Troutdale

With shipyards still humming and the cutback in government contracts definitely stated not to be effective on Portland orders, the Columbia Empire was rolling smoothly through the past month.

The Troutdale plant of the Aluminum Company of America, one of the West's big aluminum producers, is to go on a full capacity basis, it has been announced by L. C. Stoll, Oregon War Manpower director. Manpower shortage has been the key reason operations have not been at their peak, he said, but all four pot lines are to be operating full blast under a higher manpower rating.

#### Protecting Timber Future

Probably the biggest news affecting Oregon's largest peace-time industry, lumbering and logging, has been the establishment of a 47,000 acre tree farm in Columbia River territory near Vernonia. It was owned by Clark & Wilson, pioneer sawmill operators of Portland, who are closing their operations. Fate of the big area, a large part of which has been logged in previous years, had been a worry to the industry faced with a picture of mill operations beginning to close for a lack of timber.

The new owner of the Columbia River tract is Crown-Zellerbach, paper and pulp manufacturers, who will continue to log some 80 million board feet of large merchantable timber on a 4000 acre uncut tract and will place the remainder in a tree farm immediately for perpetual sustained yield pulpwood operations.

Highlighting a current move toward sustained yield in the timber industry, the announcement gave new hope to those who feared the worst with closing of one of the state's long-time operations.

Already there are stands of 50-year-old trees in cut-over lands, Crown-Zellerbach officials say, and many of younger and smaller size. These will be systematically thinned on a 30-year cycle with the thinnings going to pulp mills instead of waiting for Nature to do that work through death and rot.

The major logging operation will be on 60-year cycles and will use some 200 miles of main line and spur track roads that will be maintained for fire protection during years when no logging is in progress. The new tree farm will be operated with five others in Oregon and Washington operated by the same company.

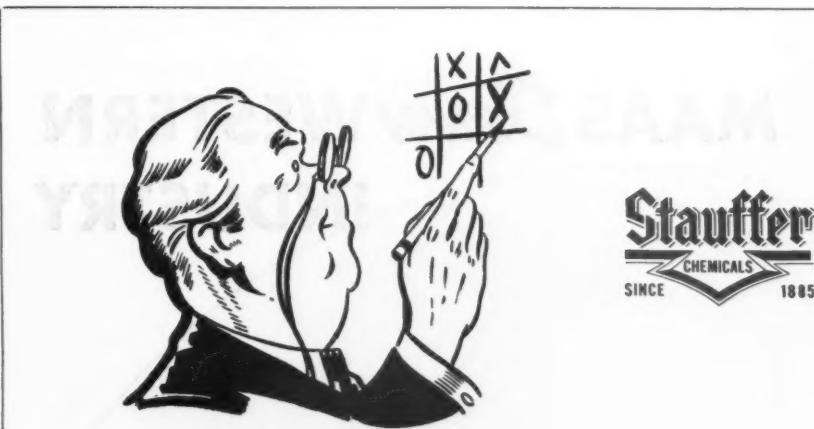
before the Senate Special Committee on Small Business. He looks for a big use of magnesium in construction of truck and trailer bodies, based on his experience in operating a diesel truck with two trailmobile trailer units so equipped.

The two trailers have empty weight of 29,150 pounds and carry total payload of 47,170 pounds. Weight saving by using magnesium is 8214 pounds, which increases the payload capacity by 4.1 tons.

"Estimated cost for the magnesium truck bodies is \$3750 each or \$7500 for the pair," he said. "Steel bodies would cost \$1750 each or \$3500 for two. The extra cost of magnesium over steel of \$4000 will

be amortized in four months for the additional truck revenue due to the increased payload.

"The Permanente trucks are hauling magnesium oxide from Moss Landing to Permanente, Calif., each three trips a day. The extra 4 tons per trip or 12 tons per day hauled legally on the California highways by each unit, at the regular truck rate of \$2.60 per ton represents a net saving of \$31.20 per day. This means that the increased cost of magnesium over steel of \$4000 is amortized in 128 days or about four months, after which time the daily saving is a net benefit not possible to realize by conventional means."



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We have bent every effort to keep our customers supplied with chemicals for important war production needs. Our customers say we have done a good job. Now we would like to supply more customers and make new friends.

**STAUFFER CHEMICAL CO.**

#### Kaiser Looks For Big Magnesium Use

Henry J. Kaiser predicted big opportunities for magnesium, in his recent testimony

# REGIONAL REVIEWS

## TEHACHAPI TO TIJUANA

**A**S THIS is written, both wars are going well. The Navy announces reductions in its programs, and Southern California shipyards will be affected. The War Production Board discusses potential cut-backs and Southern California war plants will again be affected.

Self-appointed Worriers about the West are getting all set to start wringing their hands, and start shouting, "I told you so!" Or have you seen The March of Time's

latest release on the Future of the West?

At the same time, the War Production Board and the War Manpower Commission are worried—because they are afraid that V-E Day will not leave enough war-workers to complete the gigantic task that still remains. Southern California is so involved in various types of program, and in transporting goods to the Pacific Theatre that this isn't an idle worry.

Worst part about it all is that the un-

employment insurance claims of the next six or eight months may support the views of those who weep, and war industries may be crying for help. Some war workers are weary and may quit industry entirely. Others may go back to old jobs in this area or other areas—or may seek new jobs in industries that seem to offer a more certain future. Those who are willing to switch to another war industry may not have the skill required or may not live in the particular area.

On top of that, industry may not want some of those who are willing to work. The employment picture that started to run December 7, 1941, is now starting to run in reverse. There was a time when industry took on anyone who could do some work during the day, but that time has drawn to a close in some plants, and will draw to a close in others.

### U. S. Naval Drydocks

Despite the number of persons that may be drawing unemployment insurance, there will be an over-supply of jobs in this area during the next several months. U. S. Naval Drydocks, Terminal Island, is carrying on a big expansion program. It is going to try to increase its personnel from 15,000 to 20,000 by July 1. This will be a permanent installation with the largest graving dock in the world—able to handle the biggest battleship that we have today—or that we may contemplate. It will have its Morreel drydock, capable of handling the largest ship afloat today, and it will have two cruiser docks, as well as facilities for mooring two floating drydocks. The Seal Beach Ammunition Storage Depot is a part of this general set-up.

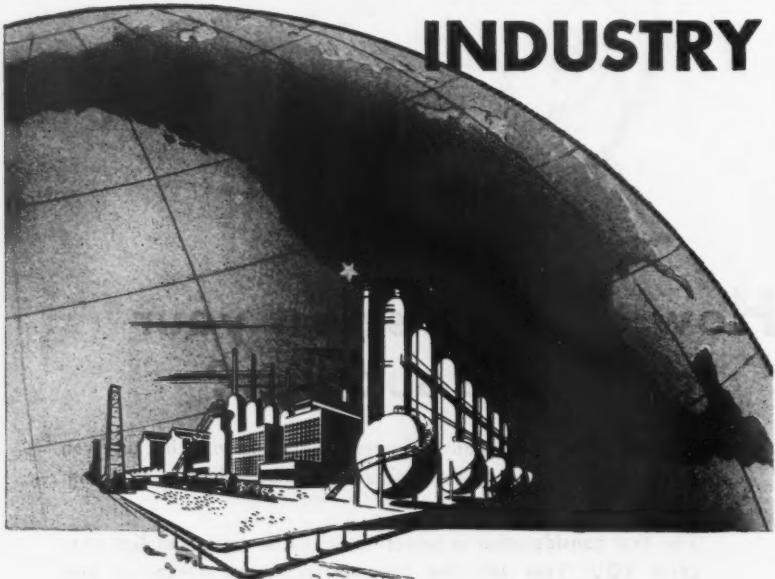
Even when the war with Japan has ended, and all of our ships are in perfect condition, regular ship maintenance will require many thousand workers down through the years. The Terminal Island installation will not detract from San Diego, which takes care of smaller craft, and is manned by Navy personnel, whereas the work at Terminal Island will be done by civilian personnel. Terminal Island probably will not cut too deeply into the permanent employment in other Pacific Coast repair yards, because we'll probably maintain a much larger Navy than we did before the war.

### Permission to Reconvert

Only 17 firms were granted permission to reconvert during the month of March, a new low since the "spot authorization" plan went into effect. A list of the firms and the products is carried in "West on its Way."

Although this isn't a very large number, it must be remembered that a substantial group of firms has received permission to reconvert already, and this increased the total substantially during a period when "the pressure" was still on. If the war continues to go well, all of these firms will no doubt be able to expand their

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"ARMED for Chemical Service"

production, and new firms will be added to the list in larger numbers.

#### Brighter Side

It's easy to see the black side of the "conversion" or "reconversion" picture. If you go through the classified section of the telephone book, however, you will be amazed at the large number of Southern California industries that have no conversion problem at all—or only a minor problem. The business firms and their workers will go right on doing what they are doing today.

Southern California is fortunate that it has such a large number of basic industries, and that it has such a wide diversification of industry.

It will be a very nice "cushion" during the period that must elapse before WPB and WMC can determine on what scale reconversion can be permitted after V-E Day. It probably will have to feel its way along slowly, because somebody's reputation would take an awful shellacking if we had another scare like the December one.

#### WPB and WMC Apply the Brakes

WPB and WMC must play the part of the pessimist from the start, however, because they won't know what effect V-E Day will have on war workers, and they won't know what effect each new favorable event in the war with Japan will have on war workers—until the day after. If war workers are released from one plant, the WMC won't know how many of them will immediately seek and hold another war job.

The possibility is that there won't be any problem—that war workers will rally to the cause and give the war with Japan a good old Yankee heave-ho. This would certainly be a happy solution in every way, because WMC would have no problem, and WPB could go ahead giving permission to reconvert for civilian production. Might even let the bars down a bit more on homebuilding.

#### Coasting into Heaven

The end product would be that we wouldn't have that sudden dive the day that the war ends with Japan, because the war production program would have been tapered off so gradually, and the people, including the members of the armed forces, reabsorbed so gradually that there would have been little dislocation. Civilians would get some of the things they want about six months earlier, and prices might gradually start to readjust themselves—or quality increase.

Southern California would certainly benefit by selling this idea to war workers and industry, because it would mean a better break on conversion in this area than will otherwise be possible. That would mean that Southern California industries probably wouldn't be at any great disadvantage with the plants of the rest

of the country. The early output of most eastern factories probably won't spread very far around the United States, whereas as the Southern California manufacturer can concentrate on building up dealers in this area that he plans to serve.

#### No Prorating Vacations

The Tenth Regional WLB policy of prorating vacations reported in the April issue of *Western Industry* has now been reversed, so the order now stands one week after one year and two weeks after five.

#### More Frozen Foods

Frozen fruit and vegetable production in California in 1944 reached 110,513,300 pounds, compared to 73,219,780, the Western Frozen Foods Processors Association reports. Frozen apricots showed the largest individual gain, 34,809,185 pounds being packed compared with 11,709,793 pounds in 1943. In vegetables, the spinach frozen pack jumped from 4,248,652 pounds to 8,827,752 pounds, while broccoli and cauliflower also increased approximately 50 per cent.



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Western Service Offices in: Seattle, Spokane, Portland, Berkeley, San Francisco, Sacramento, Fresno, Honolulu, Los Angeles, San Bernardino, San Diego, Phoenix, Salt Lake City, Denver, El Paso, San Antonio, Houston, Corpus Christi, Dallas, Little Rock, Oklahoma City, Tulsa, Kansas City, St. Louis, St. Paul.

# REGIONAL REVIEWS

## THE WASATCH FRONT

CUTBACKS in shipbuilding on the Pacific Coast are creating a growing clamor in Utah for immediate steps toward the conversion of Geneva steel plant to peacetime products.

The plant has plate and shell steel orders to carry it through the first half of the year and possibly a month or two into the second half. But continuing improvement in the war situation and further reductions in shipbuilding could quickly wash these orders out.

Pressure for speedy conversion arises from apprehensions over the effects, some certain and others possible, of a long shutdown between the termination of war output and the beginning of competitive peacetime production. The skilled operating staff would disintegrate; the area would be upset economically; and any opposition there might be to establishment of a Western steel industry would be given additional time to mobilize resistance.

If the plant is basically sound, of course,

the effects of such factors would be temporary. But the feeling here is that any considerable delay in conversion will multiply the problems incident to getting the industry firmly integrated into the post-war economy.

Sam H. Husbands, head of DPC, has assured Rep. J. W. Robinson of Utah that he plans to ask United States Steel Corporation, the Colorado Fuel & Iron Company, and Henry Kaiser to submit proposals for purchase or lease of the plant in the very near future. But no final action, he indicated, can be expected until after an appraisal and an estimate of conversion costs has been submitted by Arthur G. McKee & Company. Their final report is not due until early June.

Reconstruction Finance Corp. has engaged Arthur G. McKee & Co., Cleveland, to survey the plant of Kaiser Co. Inc., Fontana, Calif., and the Freyn Engineering Co., Chicago, to survey the plant of the Geneva Steel Co., the report to include an appraisal of plant holdings, raw materials, equipment, freight rates, distribution of finished products, West Coast markets, etc. H. A. Brassert will make a separate survey of the Fontana plant for the Kaiser company.

Husbands indicated to Rep. Robinson that he personally favors a temporary leasing arrangement, not with any idea of permanent government ownership, but to provide a basis for determining the value of the facility in a competitive, commercial operation.

The government is expected to build the additional facilities needed for post-war operation if the plant is leased. But the purchaser will be expected to do the job if ownership is transferred.

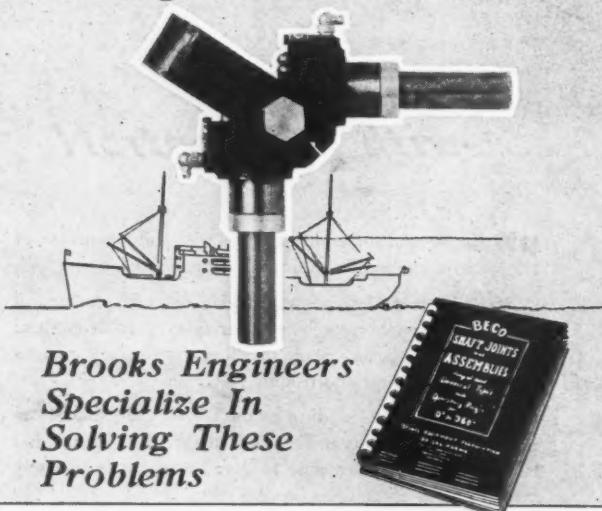
### New Report from Mahoney

Dr. J. R. Mahoney, director of the bureau of economic research at the University of Utah, has made a study of the new facilities needed to adjust the plant to Western market demands and estimated the costs of such a program. His estimate for extension of the plate mill so it can produce a full line of flat rolled steel is \$3,500,000. He also recommends a tin plate mill and a strip and sheet mill at an estimated cost of \$15,000,000 each.

His study, which will be ready for publication in the near future, goes into the most feasible location for these facilities and covers the fabricating industries already established in the West.

Production of the plant was showing a decline at the beginning of the second quarter, not because of a lack of war orders, but because of a coal shortage. Manpower deficiencies at the coal mines were aggravated by absenteeism and a reduction in the rate of output per worker. This was attributed to the uncertainties created by negotiations for a new contract between the operators and United Mine Workers.

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Seattle, 1, Wash. Portland, 9, Ore. Los Angeles, 15, Calif.

Weakness of the coke made from Utah coal is still causing some minor difficulties. One possible solution to this problem is the addition of two or three per cent of pitch to the coke. This has reportedly been tried out with promising results on a small scale.

Early apprehension over the adequacy of the iron ore deposits in southern Utah is being dissipated by the exploratory work being done by the U. S. Bureau of Mines. The bureau has not reported its findings yet. But indications are that the deposits are not narrowly confined to areas where the ore is exposed but are far more extensive at depth.

Dr. Mahoney is confident that the incomplete exploration assures an ample supply of ore for the foreseeable future and that further work will greatly expand the reserves.

#### Manpower Shortage in Mines

Employment in Utah industries covered by unemployment insurance, which reached an all-time high of 125,000 in July of 1943, had shrunk to 96,000 by March of this year. Much of the decline occurred in the construction industry. Another large slice was taken out by the cutback in small arms ammunition production and the consequent closing of the Utah ordnance plant. But employment has been, and still is, diminishing in the basic mining industry despite the demands of WPB that metal production be increased.

The plight of the mine operators with respect to manpower was recently dramatized by a newspaper announcement. The commander of a military supply depot announced that 100 experienced miners em-

ployed there would be released for work in the mines, if they could be persuaded to accept mining jobs. This announcement created the impression that the men were going to be assigned to the mines. Next morning the U.S.E.S. office was besieged by mining company representatives seeking a quota of the men. Interest began to wane when it was learned that the men had to be persuaded to make the change. At last report the ex-miners were still at the supply depot.

The shortage of miners is accentuated by the reluctance of the older men to go underground. It is almost an axiom in the industry that you get miners before they are 30 or you don't get them.

If the security exchange commission approves the proposed recapitalization plan of the Utah Power & Light Company, one of the most prolific sources of anti-industry feeling in this area will be eliminated. The plan washes out all of the common stock held by Electric Bond & Share and places complete control and ownership in the hands of preferred stockholders. No single stockholder owns as much as two per cent of the preferred and a larger amount is held by Utah owners (30.76 per cent) than in any other state. The holdings in the Western states aggregate 49.31 per cent. The remainder is widely scattered. The plan calls for exchange of the two classes of preferred for a single class of common.

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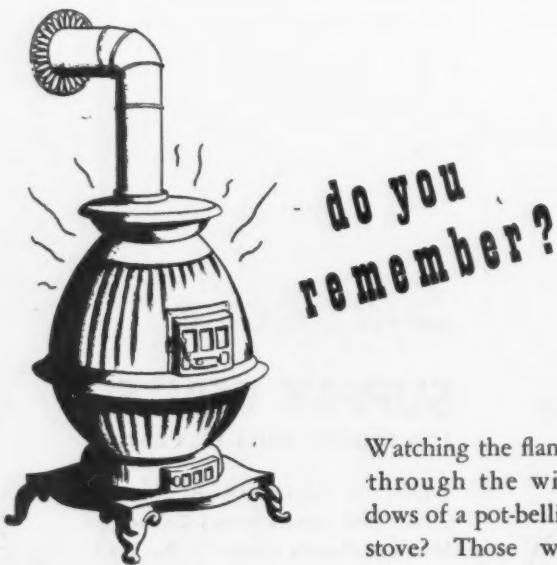
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# Colorado Industrial Review and Comment

**O**PEN warfare between the ODT and prairie state millers and farmers has resulted from the worst shortage of boxcars in many years, with ODT Director J. Monroe Johnson promising that the situation will get worse before it gets better. Kansas wheat farmers plan to dump 75 million bushels of their new crop on the ground for lack of boxcars, although

as usual in years when rolling stock is scarce they probably will put much of the golden grain in storage in school houses, store buildings and churches.

Speaking of boxcars, Luke Smith, president of Denver's booming Quickway Truck Shovel Company says his force hasn't recovered yet from their surprise. It seems that a carload of huge motor trucks was



Watching the flames through the windows of a pot-bellied stove? Those windows were probably

thin sheets of Asheville Mica, a product that has been keeping heat in its place for a long time.

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spotted on Quickway's track, or so the government's bill of lading stated. When the car was opened, instead of trucks, the contents turned out to be groceries!

Mining men — and that includes the men who work for day wages as well as those who operate the West's mines — are watching the ever-mounting import totals in metals whose production now constitutes an important element of Western industry. Current proposals in Congress to lower tariff rates on minerals and metals must run the gauntlet of aroused Western congressmen and senators, who see nightmares of closed mining camps ahead unless H.R. 2652 (known as the Doughton bill) and similar proposals are spiked. Officials of the Colorado Mining Association will appear during tariff hearings in coming weeks. In the fight to prevent further tariff reductions a united front will be presented by the West's livestock, sugar, metal and non-metaliferous mining interests.

Industrial users of natural gas in the Denver area are jubilant over the decision of the United States Supreme Court upholding the wholesale Denver gas rate reduction ordered by the Federal Power Commission. Refunds will go to 86,500 householders and industrial gas consumers, of whom 30,000 use the natural gas for heating homes or business establishments. \$3,294,000 is to be refunded to the consumers, whose aggregate gas bills will be

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lowered \$1,098,000 a year, in Denver alone.

More than two million dollars a year will be saved by gas users in all regions served by the Colorado Interstate and the Canadian River Gas companies. The money to pay the refunds has been impounded by court order since May 15, 1942. A heavy increase in demand for natural gas, under the new reduced rates, is anticipated. Many firms that have been eyeing Denver's post-war prospects have indicated that the availability of cheap natural gas is a major advantage in favor of Denver as a site for small industries.

#### No, Wickwire Won't Tell

Officials of Wickwire-Spencer Steel Company, owned by the same interests which recently bought control of the Colorado Fuel & Iron Company, whose Pueblo mills constitute Colorado's largest industrial plant, have been visiting their C.F.&I. properties and trying to calm the worried residents of Southern Colorado.

No, the successors to the Rockefeller interests insist, there is no thought of a merger between the Colorado Fuel & Iron Company and Wickwire-Spencer. No, they assert, there is no truth in the report that the C.F.&I. will make some deal with Henry Kaiser Industries if Kaiser manages to buy Utah's big new Geneva Steel plant.

On the contrary, the new owners have plans for pouring millions of dollars into plant rehabilitation and improvement at Pueblo. Should Colorado people worry about the Geneva steel plant as a threat to their Pueblo industry? Yes, indeed, according to Franklin Berwin of the C.F.&I.'s new board of directors.

But only recently in Denver Walter Mathesius, president of Geneva Steel, said that the Geneva plant should not be viewed as a threat to Pueblo's mills. "I just hope Mathesius didn't lull the people of Colorado to sleep," said Mr. Berwin.

#### Still Bigger Merger Coming?

Possibilities that a new steel merger is in the making are being discussed in the East, which would include Wickwire-Spencer, C.F.&I., Andrews Steel Co., of Newport, Kentucky, Crucible Steel Company of New York, Phoenix Iron Co., Phoenixville, Pa., and Rotary Electric Steel Co., Detroit. This would give an integrated

steel producing corporation with principal activity in the alloy field.

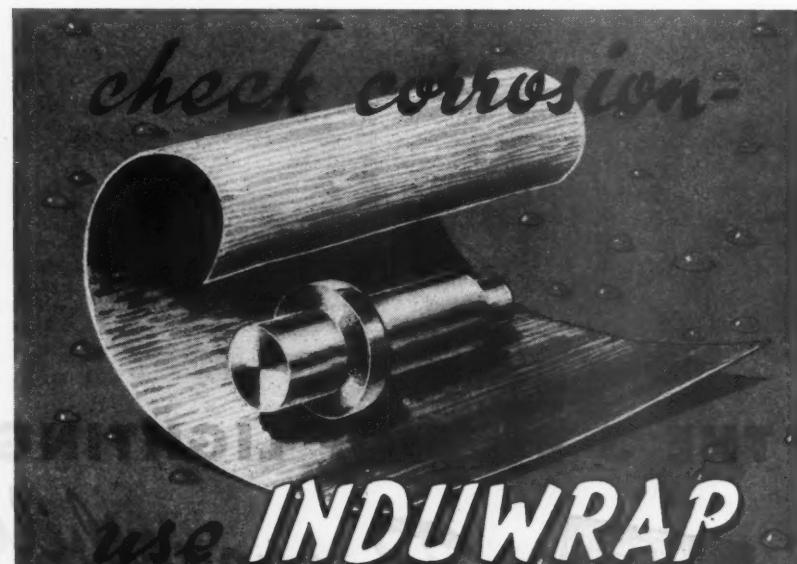
Allen & Company, New York investment firm, headed a Wall Street syndicate that bought the Rockefeller control of Colorado Fuel last December. The Allen firm, which now holds 107,890 shares of the common stock, is headed by Charles and Herbert Allen, and Charles Allen is the new chairman of the Colorado board. He is also chairman of Wickwire-Spencer. E. Perry Holder, chairman of the finance committee of Colorado and president of Wickwire, holds 5,000 shares of Colorado Fuel common, and Mr. Berwin, who is vice-president of the Polaris Steamship Company, owns 200.

The Allen syndicate was composed of the Allen firm, Floyd Odum's Atlas Corp. and the Schoellkopf interests of Buffalo,

who are interested in breweries, finance, and Bell Aircraft. The latter are represented on Colorado's board of directors by Charles G. Terry, vice-president of Schoellkopf, Hutton & Pomeroy.

#### Small Firms Watched

Employing less than eight persons does not give the right to make wage increases to Salt Lake City's wholesale fruit and vegetable dealers, it was ruled in March by the Ninth Regional War Labor Board. The decision rescinds the order of the national board allowing firms with less than eight employees to make increases, subject to certain restrictions, without WLB approval. Reason for the Salt Lake City exception: ". . . a dangerous trend of wage increases given by small wholesale produce companies."



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## EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

MANY of the cutting operations on such parts as wing panels and plexiglass parts for turrets must be individually done without the benefit of a router block. This is due to the fact that these parts are cut at sporadic intervals and the making of router blocks for them would be too expensive.

Until Fred E. Hill in the sheet metal fabrication department of Ryan Aeronautical Company at San Diego suggested an improvement, these pieces were cut by the slow process of scribing, punching radii and shearing each one by hand. This Ryan employee conceived the idea of making a set of vise clamps which could be used to clamp many sheets of material together.

Only one sheet required the scribing. Then the whole group could be cut in one operation. These clamps are quickly adjusted and save a great deal of time because they permit the handling of many similar parts with the same facility as that required for one.

The highest individual suggestion award so far paid to a woman at Vultee Field

was made to Ina M. Skochdopole, a Hardinge machine operator, who was awarded \$330. Mrs. Skochdopole's idea effected a 100 per cent increase in the output of small bushings that require reaming and burring. The suggestion resulted in installation of a hydraulic lever on the Hardinge machine, and a special cut drill which burred the outer edge of the bushing and reamed the inner surface simultaneously.

The idea for the wedge-shaped drill



• Fred Hill, Ryan employee, uses vise clamp

came to Mrs. Skochdopole from a little V-shaped tack remover which she had at home, she said.

\* \* \*

A micrometer attachment for air drills for depth drilling, invented by Harry Henn, machinist at the Mare Island Navy Yard, California, won a recent award in the Navy's suggestion program.

This attachment has been particularly useful in drilling operations on propellers. Prior to its conception this operation required two men, one with a depth gage and one with an air drill. Frequently, the holes were drilled too deep and had to be re-drilled. Using this drill one man may do the work of six with very few mistakes, it is claimed. Estimated annual net savings accruing from adoption of this suggestion is approximately \$3500.

While this attachment was primarily designed to facilitate and improve drilling operations in connection with the faces and backs of propellers, it may be adapted to other purposes and has a very broad application. Of course, as may be seen from the accompanying illustration, the attachment is made for pneumatic drilling machines. It may be utilized in any application where these tools are used and where precision depth drilling is required.

Essentially, this micrometer attachment is a knurled threaded sleeve suitably calibrated and attached to the drill chuck by threaded connections. A drill held in the

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\*Micrometer attachment for depth drilling

chuck projects beyond the end of the micrometer attachment and the operator may vary the distance of such projection by simply revolving the threaded sleeve the required number of turns. Adjustment of depth to within .001" with this attachment is possible.

Thus before proceeding with his drilling operation the operator determines the required depth, sets the attachment properly and proceeds. There are provided two lock nuts for the threaded stop at the point of the attachment so that when the depth is set the attachment is locked in position by means of these lock nuts. By pre-setting his tool in this manner the operator is relieved of the necessity of stopping and starting his machine and checking and re-checking the depth of the drilled hole.

\* \* \*

A streamer hook bender devised by John E. Olson, electrical leadman at the Kaiser Yard at Vancouver, and for which he was awarded a \$100 bond is a mechanization of a tedious hand operation.

The new bender has increased production of this particular item by four times. It is attached to an Oster pipe threading machine. A sprocket is fitted to the threader and is used as the power for a chain drive to the hook bender.

The hook bender itself consists of a large gear to which may be attached various dies which bend flat bar or rod into the desired shapes. The material is inserted into the die and as the gear revolves the bar comes into contact with the eccentric arm on which is placed two 35-pound weights.

When the flat bar is inserted, one complete revolution fabricates the needed hook. The bender assures a more uniform hook than was formerly possible.

To eliminate hand-passing pails of concrete through a shaft boss in filling the after peak recesses at Richmond Yard One, Bill Baldrige, labor foreman, devised a track of angle-bar rails secured by steel ties and a dolly that would carry three pails of concrete. A man at each end of the track shuttles the dolly back and forth. Previously the passers worked in a cramped position and the pails could only be half filled, while an alternate procedure of dropping the concrete by conveyor tubes from the upper deck had two disadvantages, that often it was impossible to get a straight drop into the recess and that bends in the tube caused trouble by blocking with concrete. He was awarded a \$100 bond.

\* \* \*

A burning tip grill grinder won a \$100 war bond prize for Edward G. Westerdahl, burner foreman at Oregon Shipbuilding Corporation, Portland. It is a machine to grind all sizes of small wire gauge and burning tip drills, giving them the proper tip angle and clearance.

Formerly, all small drills were ground by hand and the resultant uneven work was unsatisfactory. By this new machine, exact and proper adjustment is possible with wastage of tips from improper grinding reduced from 15 per day to two or three per week.

Now in production on self-lubricating cored and solid bar units up to 95 lbs. in weight, Chrysler Corporation "Amplex Division" has announced an expanded bar stock size list of its Oilite Bronze and ferrous base Super-Oilite. Shown are some of the giant Oilite units, many of which are the latest in large size cored and solid bars.



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# LABOR AND THE INDUSTRIAL WEST

**S**O SERIOUS has become the situation where staff employees of the Tenth Regional War Labor Board at San Francisco are being appointed to act as public members of the supposedly tripartite panels set up to hear evidence and report findings that the United Employers, Inc., of Oakland, have started to do something about it.

Roused to action by the fact that industrialists were refusing to serve any longer on these panels, the association has rendered a protest and begun a campaign of education among its members and other industrial organizations to inform them of the significance of the trend.

Often these staff employees have worked on the same cases to which they are later assigned as supposedly impartial judges and reporters, and in at least one case such an employee was appointed as public chairman. Furthermore, many of these individuals have a distinctly pro-labor slant and come from the staffs of the unions, and at

the present time a unionization campaign is in progress among the Board's employees.

"Obviously such people cannot be impartial," said R. C. Thumann, secretary of United Employers, Inc. "Their background and their previous contact with cases on which they are supposed to make an impartial investigation and report makes it altogether too probable that they will prejudge the case."

E. B. Field, an industry member of the Regional Board, said he had objected to the practice from the beginning and that it was not an impartial method to put a person who had worked on a problem as part of his routine duties in the position of a representative of the general public and expect him to sit on the case with an open mind.

"Any industry man is wasting his time to serve on one of these panels," declared Chas. P. Howard of Howard Terminals. "This practice is basically wrong and un-

sound. The public representative should be above question as to his impartiality. There should be an open, free review of the facts, but it is not being done."

F. E. Boyd, of Pacific Electric Motor Co., one of the panel members who had refused to serve further, said that the "public member" in one of his cases was a staff employee who had been a former CIO organizer.

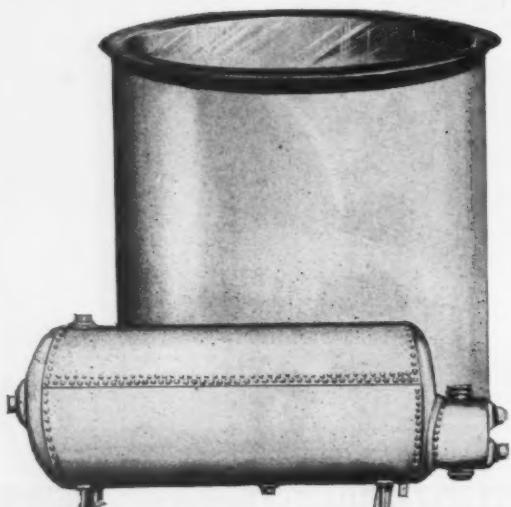
"The tripartite character of these panels is being distorted," he added. "Employees on moderate salaries are obviously not in a neutral position. I believe we will have to have labor courts eventually."

## Colorado Board Gets Bouquets

"Best labor record in the entire United States!" was the unqualified compliment paid the Ninth region of the War Labor Board by its national officials early this month.

Another cause for satisfaction in the mountain states this month was the appointment of Justice William Lee Knows of the Colorado Supreme Court as the associate public member of the WLB's Meat Packing Commission. Labor and industry representatives have not been appointed as yet. The Commission has jurisdiction over wage disputes between the five big packing companies and three unions of their employees. Judge Knows was a primary candidate for governor on

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the Democratic ticket a few years ago, with strong labor support. For some time Judge Knous has been a public member of the Ninth War Labor Board. He will preside when the public member, Clark Kerr of Seattle, is unable to attend sessions of the Commission, which will be scheduled so as not to interfere with Judge Knous' duties on the Colorado Supreme Court.

#### Night Shift Ceilings

As a result of the swan-song ruling of Fred M. Vinson as he moved upstairs from the office of Director of Economic Stabilization of 4 cents to 8 cents for night shift differentials, the Tenth Regional War Labor Board has reduced the differentials on all new cases to conform. Previously differentials as high as 10 to 15 per cent, or 10 cents to 15 cents had been allowed, and on cases already in process the Vinson ceiling does not apply.

#### Set 55c Minimum

Wages under 55 cents an hour are "standard" in the states of Colorado, New Mexico, Wyoming, Utah, Montana, and Idaho. This ruling by the Ninth Regional War Labor Board in March, 1945, declares that "55 cents is the minimum hourly wage rate necessary to maintain a wartime living standard" in the states named. The Board will approve hourly rates up to 55 cents where employers voluntarily ask the increase or the union and employer make the request. Employers are permitted to increase wages up to 50 cents an hour without WLB approval, but must file for approval before raising wages from 50 to 55 cents per hour.

#### Neglect is Costly

"Employers should know that it is costly and embarrassing to ignore wage stabilization regulations," declared Chairman J. Glenn Donaldson of the Ninth Regional War Labor Board this month in pointing out that penalties amounting to more than \$250,000 have been assessed against employer violators. Most cases have been settled with the employer's consent, even when stiff penalties are levied against him, since non-consent cases involve much more expensive and protracted hearings before a three-man board.

#### Sovereignty May Be Endangered

By dropping every small difference into the lap of the War Labor Board for settlement, labor and management may find in the postwar period that they have surrendered their sovereignty and lost their freedom of action, according to Chairman T. F. Nebblett of the 10th Regional War Labor Board.

He outlined the following ways in which cooperation with the WLB can expedite disposition of cases:

1. Exhaust the possibilities of collective

bargaining before turning to the WLB. All existing contract procedures for settling grievances should be utilized.

2. Obtain full information on the national wage policy while negotiating or before presenting evidence in a case to the WLB.

3. Once the case goes to the Board, maintain the status quo pending a decision.

4. Neither side should request delays or postponements. Much of the criticism of the Board for delay in decisions results from actions of the parties themselves.

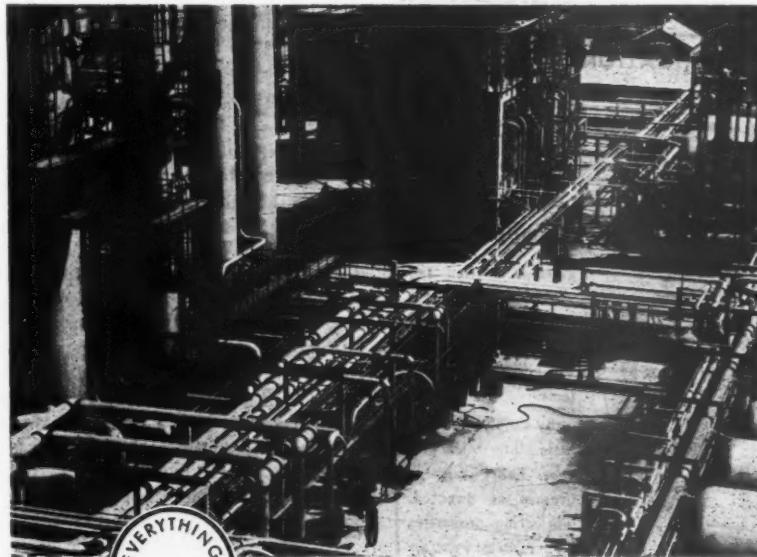
5. Cases should be submitted in written form when possible to obviate oral hearings.

6. If an oral hearing is considered necessary, the parties should agree to a single hearing officer hearing the case, since this procedure is faster than a three-member panel.

"Unions and employers may avoid or expedite a dispute before the Board, by obtaining the sound and tested wage rates for industries in particular areas where they have contracts; by learning Board policy on 'fringe' issues such as vacations, differentials, paid holidays, 'clean-up' time, and the like, and by consulting officials of the Wage and Hour Division, the labor and industry officers of the Regional Board, or by writing to the Public Information Division of the Board."

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## Differential For

### Night Shifts

Extra pay for night work featured in many decisions of the Nonferrous Metals Commission last month although other requests for wage increases were denied in most instances. The adjustments were retroactive for a period of more than a year.

Western Colorado's strategic vanadium industry was involved in cases that resulted in allowing miners increases of four cents an hour for the second shift, six cents for the intermediate shift and eight cents for the third shift. These premiums are in accordance with the terms set up by the Board for the non-ferrous metal industries in the eleven Western states.

Companies involved were the United States Vanadium Company whose properties at Rifle, Colorado, were concerned, and the Vanadium Corporation of America, Naturita, Colorado. In both instances the union concerned was the United Mine Workers of America, District 50.

## Health Still Free

Tenth Regional WLB's decision (industry dissenting), saddling a compulsory health insurance policy on the Super Bilt Furniture Manufacturing Company of Los Angeles, plus a requirement that it could only subcontract to union shops, failed to stand up before the National War Labor Board at Washington, which vacated these portions of the decision. The health insurance was to have been paid for 60 per cent by the company and 40 per cent by the employees.

## Idaho Supplies Half Of the Potato Starch

More than half the white potato starch consumed in the United States now comes from four companies established within the last four years in the Snake River Valley of southern Idaho. They have produced 21,970 tons, worth approximately \$2,197,000, utilizing more than 350 million pounds of cull potatoes.

Principal use for potato starch is by the textile trade in the weaving of shirting material, fine cotton and rayon goods. It is used also in the paper and adhesive industries, and in food products such as syrups, pie filling, and dessert bases.

The following table indicates rapid development of production in thousands of pounds, by the three principal corporations (the company at Menan produces wet starch delivered under contract to St. Anthony Starch Co. for processing, drying and marketing):

	1941-42	1942-43	1943-44
Idaho Potato Starch Co., Blackfoot	3,000	5,100	8,800
Magic Valley Processing Co., Twin Falls	1,800	4,200	7,000
St. Anthony Starch Co., St. Anthony	-----	2,380	4,560
Totals by operating seasons	4,800	11,680	20,360

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## Safety News From the West

TWO YEARS and four months without a fatal accident, during the recent period of intensive activity in shipbuilding and ship repairing, is the outstanding record set up by the San Francisco yard of Bethlehem Steel Company. The rate of non-fatal accidents was reduced 49.4 per cent.

During this period the total number of man-hours of "exposure to hazard" at the yard was over 81,000,000, equivalent to the time of 1,000 men working for approximately 40 years. Keel layings and launchings in this period numbered 30 combat vessels, including cruisers, destroyers and destroyer escorts, while ship repairs were performed on 770 vitally needed vessels, both combat and merchant.

Caspas Lumber Company won the 1944 annual California redwood lumber industry safety contest for the C. R. Johnson Memorial trophy with a new low Donovan Accident Index of 78.1. The index is a combination of the frequency of disabling injuries and the number of days lost through disabling injuries and the number of days lost through injuries per 10,000 man-hours worked. This was the fourth successive year of decline in injuries, the winning index four years ago being 128.3.

First U. S. Department of Labor Certificates of Safety Achievement have been awarded to western firms which made a reduction of 40 per cent or more in accidents during the final six months of 1944 as compared with the same period of 1943. Those awarded the certificate include:

Five plants of The Paraffine Companies, Inc., Oakland, Calif.: Felt mill factory, 73.1 per cent reduction in accidents; paint and varnish factory, 53.1 per cent; floor covering factory, 63.4 per cent; roofing factory, 49.4 per cent; plant rubber and asbestos works, 60 per cent. Certificates of Achievement also were presented to labor unions which cooperated in the labor-management safety campaign resulting in the decrease in accidents, as follows: Warehousemen's Union, Local 1-6, I.L.W.U.; Paint Makers Union, Local 1101, A.F. of L.; Local 382, Printing Specialties and Paper Converters.

Two units of Permanente Metals Corporation, at Permanente, Calif.: the Natividad plant of Permanente Metals, with a 100 per cent reduction attained when all accidents were eliminated for the final six months of 1944; and the ferro-alloys plant which also showed no lost time accident during the 6-month period.

Food Machinery Corporation, Anderson-Barnsrover Division at San Jose, Calif., 55 per cent reduction.



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Yes, you can remove burrs with hard burring tools but how often do you take off too much metal? Or you can use a hand file or emery cloth but isn't that rather slow and expensive?

Why not do as White Engineering Company of Baltimore does on its many sizes and shapes of die-castings? It uses the Lea Method and properly selected Lea Compositions on flexible buffs and bobs. Why not burr, polish and buff as countless other plants?

Send us a complete description of the part or parts for which you would like our recommendations for more effective and cheaper de-burring or other finishing operations. Better yet, if possible, send us the parts. Our technical staff and laboratory will be glad to study your problem and make a complete report. If necessary, we'll send a representative to your plant.



## THE LEA MANUFACTURING COMPANY

Waterbury 86, Conn.

Burring, Buffing and Polishing . . . Manufacturers and Specialists in the Development of Production Methods and Compositions

## Production Awards

Among recent awards for outstanding efficiency in war production are the following:

### Army-Navy "E"

United States Spring & Bumper Company, Los Angeles, third.  
Farr Co., Los Angeles.  
Hoover Electrochemical Co., Tacoma, Wash.  
Lamb-Grays Harbor Co., Plant No. 1, Hoquiam, Wash.  
Western Gear Works, Lynwood, Calif., fourth star.  
Morris P. Kirk & Son, Inc., Los Angeles.  
General Machinery Co., Spokane, third renewal.  
Trentwood Aluminum Rolling Mill, second renewal.  
Utility Trailer Mfg. Co., Los Angeles.

"Quick-Way" Truck Shovel Co., Denver, Colo.  
L. R. Teeple Co., Portland, Ore.  
Union Lumber Co., California.  
Gunderson Brothers Engineering Corporation, Portland, Ore.  
Airesearch Mfg. Co. of Arizona, Inc., Phoenix, Arizona.  
Colorado Fuel & Iron Corp., Denver, second star.  
Boeing Aircraft Co., Seattle, fourth star.  
Hoffman Radio Corp., Los Angeles.  
McDonough Steel Co., Oakland, Calif., second star.  
Capital Machine & Welding Works, Sacramento, Calif.  
Hansen Machine Works, Sacramento, Calif.  
Robert McNairn Machine Works, Sacramento.  
Pacific Sound Equipment Co., Los Angeles.  
Arapahoe Mfg. Co., Englewood, Colo.  
Besler Corporation, Emeryville, Calif.

Eaton Metal Products Co., Albuquerque, N.M.  
Mexico.

Kearney Pattern Works & Foundry, San Jose, Calif.

### Maritime "M"

Mangrum, Holbrook & Elkus, San Francisco.  
Stimpson Steel Co., Los Angeles.  
Zinsmeyer Co., Los Angeles.  
Los Angeles Steel Casting Co., Los Angeles, second gold star.  
Western Pipe & Steel Co. Shipyard, South San Francisco, third gold star.

### Civilian Defense and Coast Guard Awards

Encinal Terminals, Alameda, Calif.

**Bearish Bullish**  
A pess  
the iron  
but high  
aluminu  
in the ad  
engineer  
Colorado

"There  
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Colorado  
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deposits  
billions  
and alumin  
of Idaho,  
other pa  
While

## Spot Authorizations

Additional spot authorization for reconnection to civilian production:  
**Southern California**

**Bakersfield:** Matlock & Norton, wooden furniture

**El Monte:** D. & D. Foundry, poultry waterer

**Glendale:** Meyer's Watch & Clock Hospital, watchmaker's precision vise

**Glendora:** Rain Bird Sprinkler Mfg. Co., farm sprinkler

**Hollywood:** Garment Hanger Co., garment hangers

Otto K. Oleson Illumination Co., photographic fluorescent flood light

**La Mesa:** Browning Mfg. Co., irrigation sprinklers

**Los Angeles:** Joseph Brick, dinette sets  
William Goodman, galvanized garbage cans and pails

**Kinney Iron Works:** manhole frames and covers

Morris Stamping & Mfg. Co., dispensers, hand, for soap

Pacific Fence Company, gates, wire, not farm

Morris Botman, elements, electric heating

Tyre Nursery Furniture Co., crib springs

Joseph G. Coulombe, orthopedic appliances

**Van Nuys:** Auto Grill Co., grills, radiator, for passenger autos

**West Los Angeles:** Houston Corp., film processing equipment

## THEY BOTH TAKE "KNOW-HOW"



Right:  
Forming the rope  
strand in the Tubbs  
Cordage Co. Mills

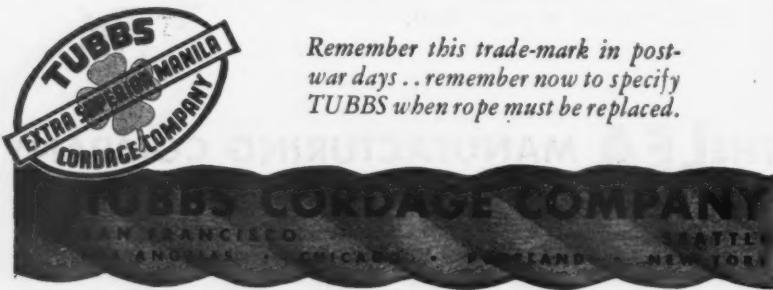
It takes infinite skill to build and to fly the fighting planes and bombers that are now putting the finishing touches on the Axis nations.

In the making of rope, the same precision know-how is required in every stage of production.

The forming of the yarn into rope strands, for instance, needs a combination of modern machinery manned by skilled operators. Great care must be taken that each strand is given a uniform turn so that the load will be equally distributed in the finished rope.

It is this almost a century of know-how that has made the name TUBBS stand for the utmost in rope dependability.

*Remember this trade-mark in post-war days... remember now to specify TUBBS when rope must be replaced.*



\* Better vision and more attractive appearance than the customary black fibre mask with transparent vision slot is provided by this new face shield developed at the San Bernardino Army Air Depot. Entire shield and adjustable headpiece made of cellulose acetate, which is not heated in shaping because the ends are riveted together through cut out slots.

## Bearish On Iron, But Bullish On Light Metals

A pessimistic view of the possibilities of the iron and steel industries in the West, but highly optimistic opinions regarding aluminum and magnesium, were contained in the address of Ira B. Joralemon, mining engineer of San Francisco, before the recent Colorado Mining Association convention.

"There are many comparatively small but high grade iron deposits in California, Colorado, Utah, and other Western states," he said. "It is doubtful if they can be the foundation for long lived iron and steel industries that will compete with the far greater operations dependent on Eastern and Southern ore bodies 50 or 100 times as great.

"But they should be an economical source of wrought iron, unusually pure steels or alloys, using sponge iron or other processes on a comparatively small scale. Such a Western iron industry will depend on superior quality for special uses rather than on large scale, low cost production."

As for aluminum, he said there were unlimited quantities of ores containing 25 to 35 per cent alumina, that the anorthosite deposits of Wyoming are measured by the billions of tons and that high alumina clay and alunite deposits occur by tens of millions of tons in Oregon and Washington, Idaho, Utah, California, Montana, and other parts of the West.

While other processes cannot compete

at present with bauxite, experiments are only beginning, he asserts, and far more unpromising problems have been solved by metallurgists.

Mr. Joralemon predicted that magnesium from sea water would continue to be a great industry in Texas and around San Francisco Bay, and that the West should continue to produce a great amount of the magnesium, particularly where cheap power and fuel are obtainable. He said there were billions of tons of remarkably pure dolomite that can be mined for a few cents a ton within a mile of the Basic Magnesium plant at Las Vegas, and that research may overcome the cost advantage which brings and magnesite now hold over dolomite.

## Synthetic Rubber Outlook

As much as 75 per cent of the synthetic rubber producing capacity of the country can be used after the war in synthetic rubber and plastics, according to R. P. Dinsmore, vice-president in charge of research and development, Goodyear Rubber Company, told the California section of the American Chemical Society recently. After natural rubber becomes available, from 50 per cent to 60 per cent of the synthetic capacity will not be needed for rubber, but possibly half of the remaining surplus capacity could be used for emulsion polymerization of a number of plastics, particularly the kind useful for packaging food and supplies or for insulating wire.

## Would you feel like a fool... saying in person... what your advertising says in print?

Is your advertising of the sort so prevalent today... suggesting that you and your thumb tack factory are in a large measure responsible for every allied victory... or perhaps implying modestly that millions of guys in far-flung fox-holes are dreaming of the day when they can own a shiny, sharp thumb tack with a point that really pricks. Does it run at the mouth along these tired lines: *We are producing a very sharp little item, an excellent device for fastening pin-up pictures to barrack walls. Without our tacks the pictures fall, the bottom drops out of soldier morale, the army goes to pot.* So you're winning the war.

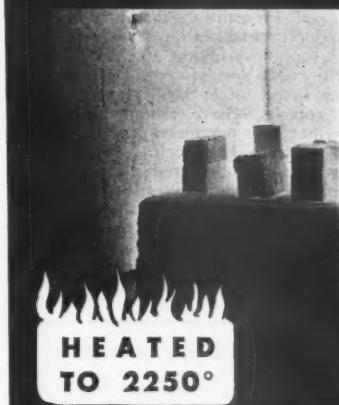
The hell you are! And you wouldn't stand up in person, stick out your flabby front, and make a statement like that. No. But have you read your advertising lately? What does it say? Can you be proud of it? If you can we aren't talking to you. But if you are a sponsor of the usual pompous dribble... think! Think what your audience thinks. Can they believe you are winning the war... or the peace... or anything but the booby prize? They know what you really mean. You mean to sell your product and make yourself some money... a perfectly reasonable ambition. Why not go about it... directly, clearly, honestly?

Gail Hall Advertising

215 WEST SEVENTH STREET, LOS ANGELES 14, CALIFORNIA

We shall welcome an occasion to submit our plans for your advertising.

## Demonstrating BRICKSEAL REFRACTORY COATING



Brickseal provides a crackproof, vitrified armor for furnace linings. The small firebricks shown in the furnace were bonded and painted with Brickseal and heated to 2250°. Directly from the furnace they were plunged into cold water as shown below—a test for any material subject to expansion and contraction.

Brickseal is semi-plastic when hot, yet hard and tough when cold. Brickseal is made in grades suitable to heats ranging from 1400° to more than 3000°. It will make any furnace last longer by giving new life to your refractories. Write or call local dealer for a demonstration.



## SAVERITE ENGINEERING COMPANY

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TWInoaks 1-171  
ANCHORAGE, ALASKA

Elmer Fern P. O. Box 728

W. H. Reber 1016 1st Ave. S., Elliott 5007  
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CHICO

Walter Harris 200 Davis St., Douglas 8590  
SAN FRANCISCO

# THE WESTERN OUTLOOK...NEWS...STATISTICS

## THE PICTURE

Lumber remains the most critical production problem in the West, with the log supply shrinking and production falling. No answer seems yet to have been found to the lack of manpower. Oil appears to have eased up a bit, but whether only temporarily or not does not appear. The decline in electric power consumption from a year ago reflects the slowdown in effect just previous to aluminum schedules being stepped up again, and to a lesser extent the decline in construction of ships. Some of the copper mines are managing to step up their daily output.

## Lumber—Log Supply Shrinks

West Coast lumber production dropped again in March and log supply grew less, reflecting a cumulative effect of freezes and snows of late winter with shortages of manpower, equipment and truck tires, says the monthly report of the West Coast Lumbermen's Association. Log supply may be the bottleneck of the whole year for the West Coast industry, or until a break in the war situation fills its lack of men, tires and tools.

The industry's manpower requirements have risen to a peak by force of lumber requirements deemed essential by General Eisenhower for military purposes, in reconstruction of England's war shattered housing. This judgment is back of allocations of lumber for British housing, through direct lumber shipments and in the medium of prefabricated homes. It is evident that for the duration of the war in Europe,

closer and closer control of West Coast industry output must be expected to supply the lumber that military authorities decide is needed.

Cumulative figures for 13 weeks in 1945 and previous years in thousands of board feet reported by the West Coast Lumbermen's Association are as follows:

	1943	1944	1945
Production	1,670,343	2,092,202	1,879,449
Orders	1,804,442	2,257,825	2,073,258
Shipments	1,760,434	2,095,266	1,879,359

Western Pine Association figures covering Idaho White pine, Ponderosa pine, Sugar pine and associated species for the current year to March 31 are as follows:

	1944	1945
Orders	891,857	817,343
Shipments	866,832	796,367
Production	657,987	657,000

## Aircraft—Cutbacks No Effect

Cutbacks at Douglas and Lockheed announced in April will have little effect on either company, nor on the total production on the Pacific Coast. Discontinuance of B-17s will make room at the Douglas Long Beach plant for an accelerated schedule on A-26 Invaders. At Lockheed increased output of PV-1s and P-80 "Shooting Stars" will make up for the 50 per cent reduction on B-17s. Increased production of B-29s at Boeing's Washington plants will continue.

Figures from the Western Procurement District, Air Technical Service Command, are as follows:

	No. of Planes	Total Poundage
August	1,930	26,391,000
September	1,802	26,293,000
October	1,609	21,960,000
November	1,499	20,821,000
December	1,488	21,035,000
January, 1945	1,650	22,440,000
February	1,456	21,146,000
March	1,621	24,146,000

## Ships—End in Sight

Production of AT-2s and AT-3s will keep the Maritime Commission yards on the Coast busy until September, although at a gradually declining tempo, but after that drop will become more marked and by the end of the year there will only be a few contracts left running into 1946. Repair work, however, is on the upgrade, as may be seen by the figures on page 46 of this issue. Fifty keels were laid in March and launchings and deliveries show a slight upturn from February.

	Launchings Ships	Deliveries Ships	Thousands of Deadwt, tons
June	30	55	316
July	58	38	399
August	41	32	293
September	46	44	407
October	56	51	401
November	54	60	489
December	54	53	434
January, 1945	52	52	523
February	45	55	567
March	50	55	512

(Includes destroyer escorts and small aircraft carriers, but not larger naval vessels built by the Navy itself. Also includes concrete barges, but not tugs or wooden barges. Tonnage figures from September are adjusted, previous months unadjusted. Deadweights are used as a rough measure of the cargo carrying capacity of the ship. All figures from U. S. Maritime Commission statistical department.)

## Cement—February Report

### PRODUCTION (In thousands of barrels)

	Colo.-Wyo. —California	Mont.- Oregon-Wash.	Utah- Idaho	
1944	1945	1944	1945	
Jan.	1,080	1,258	317	269
Feb.	1,000	1,191	291	243

1944 1945 1944 1945 1944 1945

133,700 133,700

## War Production Contracts—February Figures Reflect Cutbacks

In Thousands of Dollars—Source: War Production Board Statistical Division

NOTE: The monthly award figures shown below represent only an approximation of the actual contracts, because cut-backs and cancellations are usually on previous awards, although reported in the current month. Also there is considerable lag in the reporting of individual contracts. However, WESTERN INDUSTRY is reporting the monthly awards by the successive subtraction method as an approximation.

MONTANA	IDAHO		WYOMING		COLORADO		N. MEX.		ARIZONA		UTAH		NEVADA		
	All Other	Ships	All Other	Aircraft	Ships	All Other	All Other	Aircraft	Ships	All Other	Aircraft	All Other	Ships	All Other	
August 1944	4,282	75	5,998	-2,993	-1	-32	305,077	2,743	209	844	...	150,198	...	-1,821	
September	211	141	220	1,016	52	...	2,200	...	100	401	3,716	400	...	1,625	
October	135	...	329	1,620	...	139	363	...	57	...	64	240	...	261	
November	85	80	533	740	...	...	2,459	101	...	206	454	49,550	...	86	
December	7,756	...	76	1,259	...	...	435	-141	...	58	30	197,361	...	1,319	
January, 1945	7,892	...	19	-56	...	...	3,674	-979	...	116	18	294,722	...	1,319	
February	15,784	103	-435	...	...	...	-9,720	-2,233	102	-524	...	588,922	...	2,638	
Total from June 1940-45,512	787	6,153	39,990	1,828	3,739	83,576	6,175	59,347	1,003	27,685	900	1,202,696	156	37,876	
WASHINGTON															
	OREGON		CALIFORNIA		SHIPS		All Other		AIRCRAFT		SHIPS		TOTAL		
August 1944	714,598	-13,227	119,172	...	28,607	15,266	189,082	-108,152	-12,134	903,890	150,953	616,875	...	...	
September	82,689	6,287	79,190	...	2,081	5,057	122,840	44,758	32,923	205,681	53,665	116,085	...	...	
October	...	-15,877	14,475	...	-171	805	-169,020	-13,111	40,631	-169,070	-30,020	59,333	...	...	
November	133	38	12,205	357	15,689	7,554	-71,414	-27,822	33,102	-70,924	-11,809	106,855	...	...	
December	...	21,406	490	...	2,659	-5,198	-137,791	-15,400	-16,145	-139,791	-54,950	185,285	...	...	
January 1945	43,256	36,524	-3,347	86	-55,076	-16,964	-287,789	-285,556	-98,315	-244,447	-303,992	-303,992	265,837	...	
February	83,154	53,995	12,035	172	-113,100	-38,625	-783,047	-653,073	-272,008	-690,721	-712,065	-712,065	265,837	...	
Total from June 1940	2,012,380	2,188,724	324,926	1,648	117,539	80,280	8,526,833	3,361,255	1,228,087	751,278	6,587,393	2,467,453	2,467,453	...	...

## Electric Energy—Decrease from Last Year

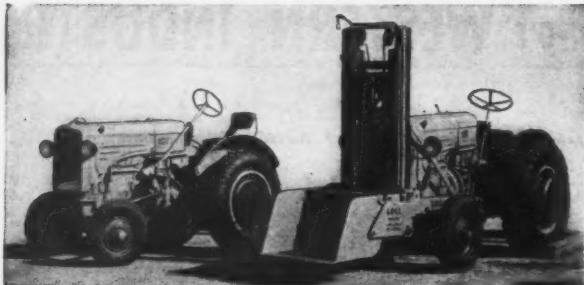
Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power Commission

MONTANA	IDAHO	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mtn.	Washington	Oregon	California	Total Publ
July 1944	217,474	127,101	34,459	87,399	44,306	231,454	24,390	256,538	1,113,121	779,929	438,373	1,521,569
August	220,673	128,274	30,999	91,641	47,468	257,053	25,137	272,598	781,757	464,110	1,451,720	2,699,487
September	192,753	105,757	23,160	83,678	42,763	243,750	24,431	229,951	1,061,249	786,323	386,483	1,304,797
October	202,033	81,574	19,303	53,893	41,834	254,936	30,867	236,822	1,062,262	811,621	387,819	1,238,409
November	203,016	84,341	19,966	62,236	42,643	327,579	32,750	225,128	1,027,659	842,505	364,874	1,157,252
December	212,383	83,551	19,772	98,459	45,091	317,797	37,743	234,997	1,049,793	903,612	351,814	1,227,941
January 1945	206,308	93,231	22,269	97,960	44,440	330,526	37,908	234,315	1,066,897	954,958	331,980	1,259,968
February	189,208	84,629	18,643	87,452	40,042	296,594	29,803	206,485	953,256	868,893	295,577	1,122,255

## Coal—Monthly Figures

	Reports by United States Bureau of Mines							
	Montana	Wyoming	Colorado	New Mexico	Utah	Washington		
October, 1944	464,000	234,000	677,000	141,000	545,000	125,000	1,000	2,787,400
November	426,000	892,000	663,000	145,000	590,000	118,000	2,000	2,836,000
December	478,000	874,000	718,000	135,000	580,000	128,000	2,000	2,915,000





**SAVE TIME, LABOR, MONEY  
with these  
MATERIALS-HANDLING  
"SPECIALISTS"...**

► **MINNEAPOLIS-MOLINE  
INDUSTRIAL TRACTORS**

For yard and plant transportation of many classes of materials, Minneapolis-Moline Industrial Tractors offer speed, maneuverability and economy of operation. Available in six sizes, with a wide range of power and weight capacities, M-M tractors fit hundreds of industrial jobs. Many special attachments—loaders, winches, trailer hitches, booms, etc., are offered for special applications.

► **LULL UNIVERSAL LOADERS**

Mounted on the Minneapolis-Moline Industrial Tractor, the Lull Universal Loader is a versatile materials handler that picks up, lifts, transports, dumps or stockpiles a wide range of materials and bulk commodities with unsurpassed speed and economy. Loading into trucks, stockpiling, carloading, high-piling and similar operations are fast and easy. Lifting forks, 'dozer blades, and similar attachments are interchangeable with the standard bucket.

Write, phone or wire for information.

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**INDUSTRIAL  
EQUIPMENT COMPANY**

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Southern California

4441 SANTA FE AVE. • LOS ANGELES 11  
Telephone Kimball 7141

# THE WEST ON ITS WAY

## ARIZONA

DPC AUTHORIZATION—Airsearch Manufacturing Company of Arizona, Inc., Phoenix, has an increase in its contract with DPC to provide additional facilities at its plant in Phoenix, at a cost of approximately \$365,000, resulting in an over-all commitment of approximately \$2,200,000.

## CALIFORNIA

WAR CONTRACTS FOR SOUTHLAND INDUSTRY—Approved by the Los Angeles area production urgency committee was the following: Food Machinery Corporation of Riverside for \$26,000,000 for manufacture of landing craft (LVT-type) and spare parts; U. S. Flare Corp. of San Fernando, Price, Pfister Corp. of 3011 Humboldt St., Los Angeles, and Automatic Screw Machine Co., Los Angeles, for \$3,500,000 for heavy projectile and bomb components; expansion of four plants, i.e., Airsearch Mfg. Co., 9851 Sepulveda Blvd., \$435,440 addition and installation of new machinery for production of B-29 components; Clazy Multiplier Corp., 1524 No. Main St., \$110,500 addition of tools; Day & Night Mfg. Co., Monrovia, \$44,000 for erection of new building and paving of additional ground space; Oederkerk & Ludwig, Pasadena, \$390,000 for installation of machinery for ordnance material production.

PURCHASE OF SITE—Food Machinery Corporation, whose headquarters are in San Jose, has acquired a 14-acre site for new factory near Richmond north of the city of Richmond, acquired from the Pan-Richmond Terminal Corporation. The site has frontage on main lines of the Southern Pacific and Santa Fe railroads and is across the Santa Fe right-of-way from the Giant Highway with frontage on road No. 20.



TWO men or girls  
can do the work of FOUR  
husky men in LESS TIME with the CARGOVEYOR

Mounted on a 4-wheel chassis with a 5th wheel steering mechanism, the CARGOVEYOR is completely portable and can be quickly rolled into position. The hydraulic lift mechanism raises it from a horizontal position to the required delivery height (up to 10' 6" at a pitch of 25°) . . . Conveys 750 lbs. of distributed load weight at a speed of 60' per minute.

The CARGOVEYOR is built in a standard length of 18' . . . consists of an electrically driven, reversible, endless belt (control of belt motion is possible from either the ground or inside the ship) . . . Master Right Angle Gear Head Motor operates from a standard 110 volt single phase lighting circuit . . . operating light for night operations . . . all wiring of rubber cable with seal fittings (completely water and spark proof).

Include the CARGOVEYOR in your program for more efficient handling of air cargoes. Write for more detailed information.

West Coast Distributors: E. C. Buehres Assoc's., San Francisco 7, Calif. M. E. Canfield Co., Los Angeles 13, Calif. Murry Jacobs Co., Seattle 4, Wash. Oregon Handling Equipment Co., Portland 9, Ore. Murry Sales Co., Denver 4, Colo. The Horstley Co., Ogden, Utah.



Manufacturers of  
STEEL FORGED CASTERS • TRUCKS & CONVEYORS • POWER BOOSTERS

**The Rapids-Standard Co., Inc.**

Sales Div.—374 Peoples Nat'l Bank Bldg., Grand Rapids 2, Mich.

ACQUISITION—Matson Navigation Company has acquired a substantial interest in United Engineering Co., Ltd.

ENLARGED ALUMINUM PLANT—The War Production Board has approved enlargement of Southland aluminum production facilities by a \$475,000 addition to the Alcoa plant at Vernon.

STORAGE TANK—Tidewater Associated Oil Co., San Francisco, has received authorization to install a 10,000-barrel steel fuel oil storage tank at its Everett plant to cost \$26,170.

PLANT CONSTRUCTION—Kennametal, Inc., has acquired a site in the industrial area of Santa Clara for the erection of units costing approximately \$25,000 to \$30,000.

ESTABLISHMENT OF PLANT—Master Tool & Gauge Co. has been formed by Edward Kellerman and associates and has established its plant at 225 West Pico Boulevard, Los Angeles.

PLANS FOR NEW BUILDINGS—Aerojet Engineering Corp., 285 West Colorado Street, Pasadena, has plans for 15 to 20 new buildings, some of frame and stucco and others of steel frame at a cost estimated at \$335,000 with utilities \$185,000 additional. Defense Plant Corp. has provided \$1 million funds.

ADDITIONAL EQUIPMENT—DPC has authorized an increase in its contract with Southwestern Engineering Company, Los Angeles, to provide additional equipment at a plant in Los Angeles, at a cost of approximately \$100,000, resulting in an over-all commitment of approximately \$200,000.

NEW ENTERPRISE—"Gadgets," a new enterprise in San Diego at 1435 Imperial Avenue, are manufacturing and distributing specialties made of wood.

DPC COMMITMENT—A preliminary commitment of \$200,000 to Oliver Tire & Rubber Company, Oakland, to provide machinery, equipment and plant expansion at Emeryville, the estimated cost of which will approximate \$300,000, was authorized by DPC.



Off-balance bandsaws, caused by uneven flooring, often account for uneven cuts. Not so, however, where the Johnson Metal Cut-off Bandsaw is used. The exclusive 3-point base provides rigid anchorage. No matter how uneven the flooring, the Johnson Bandsaw sets solid, prevents irregular cuts.

Other Important Johnson Features

- 1. Thinner blade reduces metal waste
- 2. Box type frame protects movable parts
- 3. Four speeds provide right speed for every metal, hard or soft
- 4. Hydraulic control insures even pressure throughout cut
- 5. Coolant attachment minimizes friction, prolongs blade life
- 6. Automatic shut-off after cut is completed

WRITE TODAY FOR FULL DETAILS

**JOHNSON MANUFACTURING CORP.**  
5014 CHRYSLER BUILDING • NEW YORK 17, N. Y.

# We have the **ANSWER** to Your **ROOF PROBLEMS**

• NOW is the time to resurface and repair worn and leaky roofs, flashings and gutters.

## It's Simple, Easy and Quick with **STONHARD PLASTIC ROOF RESURFACER**

CAN BE APPLIED WHILE ROOF IS WET

\* Completely prepared — Use it just as it comes from the drum.

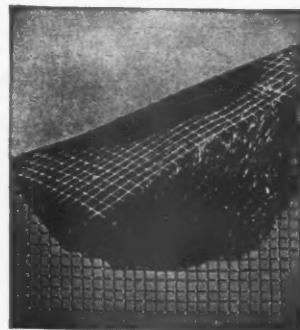
\* Covers any type of roof surface.

\* Will not check, crack or peel off.

**ORDER A DRUM NOW**

## LASTING PLIABILITY

The photograph at the right shows a thin coat of STONHARD PLASTIC ROOF RESURFACER over a piece of heavy screen. After 18 months' exposure to weather, screen was twisted back and forth until every wire broke, but the RESURFACER showed no loss of elasticity.



**STONHARD COMPANY**  
Building Maintenance Materials

Since 1922

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MAIL THIS COUPON NOW FOR FREE FOLDER,  
"HOW TO GET MORE SERVICE FROM YOUR ROOFS."

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MR. \_\_\_\_\_ TITLE \_\_\_\_\_

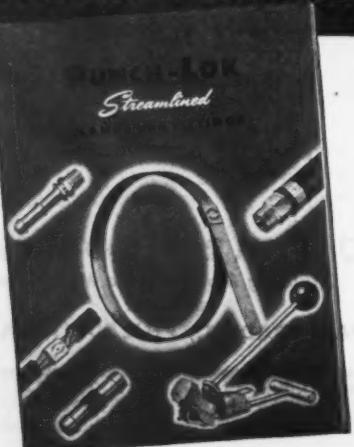
**PRODUCTION LINES ARE MOVING . . .**

Our task is to plan now for greater peacetime products. **PACIFIC SCREW PRODUCTS, Inc.**, is daily called upon to produce different and special new parts. Time, cost, efficient handling and scheduling are vital factors in keeping war production lines moving and delivering the finished job on time. It's a grand feeling to have an "E" plant serving you.

*Prompt Attention to Your Inquiry*

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Largest and Best Equipped Screw Machine Plant in the West  
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Keep  
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War Bonds

Punch-Lok Clamps, quickly applied with the Loking Tool, save time and money in your production and maintenance operations. For descriptive catalog and name of nearest distributor, write Harry M. Thomas, Pacific Coast Representative, Dept. B, 1554 Oakland Ave., Piedmont 11, Calif.

**PUNCH-LOK COMPANY**

Dept. B, 321 No. Justine St., Chicago 7, Ill.



## THE WEST ON ITS WAY

**NEW MANUFACTURING BUILDING**—The Navy authorized the construction of new manufacturing buildings and installation of manufacturing facilities at the Ryan Aeronautical Co. plant, San Diego, to cost approximately \$1,000,000. Both the new sub-assembly manufacturing building and a two-story 330-foot office and engineering building are already in use. At the same time the Defense Plant Corporation increased to \$2,750,000 its commitments at the Ryan plant, by allocating \$1,012,250 for new machinery, manufacturing facilities and test equipment.

**EASTERNERS BUY**—The Lincoln Machine Co., Providence, R. I., have purchased Poulsen and Nardon, Inc., Vernon, for an estimated \$1,000,000.

**LEASE NEW LUMBER MILL**—A tentative agreement has been reached by the Metzker-Dellinger Lumber Company of Twain and the Caste Creed Lumber Company of Dunsmuir for a 25-year lease of the old Swayne mill site south of Oroville, on which a new lumber mill will be built. The plant will have a capacity of 50 million board feet annually.

**SALE**—Production Engineering Corp., Oakland, one of the affiliate interests of Charles E. Moore of Joshua Hendy Iron Works, has been sold to Goldfield Consolidated Mines Co. Goldfield Consolidated also recently acquired substantial interest in Dalmo Victor, Inc., San Carlos. Goldfield Consolidated has been producing aluminum powder at its plant at Southgate and fine mesh magnesium powder at South San Francisco.

**INCREASE IN CONTRACT**—Reconstruction Finance Corporation has authorized an increase in its contract with Baash-Ross Tool Company, Los Angeles, at a cost of approximately \$130,000, resulting in an overall commitment of approximately \$240,000.

**INDUSTRIAL EXPANSION**—Among important developments for San Francisco Bay area are the following: Pelton Water Wheel Co., 2929-19th Street, San Francisco, alterations to shop buildings; Bonded Hair Co., 370 Brannan Street, purchase of eight lots on east side of

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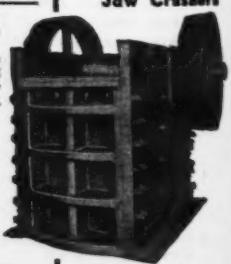
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Bayshore Highway north of South San Francisco as site for new \$16,000 concrete building; Shipyard Docking Basin, Laguna del Rey, Monterey County, private industrial development costing \$1,750,000; Pacific Rubber & Tire Mfg. Co., 4901 East 12th Street, Oakland, a \$1,000,000 addition to plant; Sardine & Tuna Cannery, near Marinship, Sausalito, a \$1,000,000 project involving construction of a 150 x 250 foot cannery on a 240x400 foot water block site; Rimple Manufacturing Co., 791 Monroe, Santa Clara, purchase of seven acres of land at northeast corner Lafayette and Reed streets, Santa Clara, as site for postwar expansion.

**ICE REFRIGERATORS**—Modern Refrigerator Works, Glendale, has been authorized to manufacture 2,500 domestic ice refrigerators, also Ward Refrigerator & Mfg. Co., Los Angeles, 7,500 units.

**NAVY GUN MOUNTS**—As part of the Navy project with Consolidated Steel Corporation for the construction of 35 destroyers in its Texas shipyard, Consolidated is building at its Los Angeles plant the twin five-inch gun mounts that will be installed on the destroyers.

**PLANT EXPANSION**—Superior Tool & Die Company of Glendale has started a plant expansion of 7,000 square feet, and building will be reinforced with Summerbell timber trusses. Albert Kaser is the contractor.

**MARITIME COMMISSION CONTRACTS**—Among three new contracts to shipbuilders for construction of 24 coastal tankers of the TI-M-BK1 type is one of \$588,929.60 to the United Concrete Pipe Co., Long Beach.

## IDAHO

**REBUILDING PLANT**—The new firm known as Producers' Containers, Inc., is undertaking to rebuild the burned plant of the Weiser Vegetable Cover Co. near Cambridge.

## NEVADA

**PURCHASE DIESEL ENGINES**—Louis Dulien of Dulien Steel Products Company has announced the purchase of two new diesel locomotives for the Tonopah & Goldfield Railroad, extending from Mina to Tonopah and Goldfield.

# 10-12% FUEL SAVINGS

## When BOILER SCALE Removed with MAGIC

Fuel savings alone run 10-12% when MAGIC BOILER PRESERVATIVE removes scale. MAGIC then forms a protective film which stops further scale formation and soft-water corrosion. Also, by its colloidal action all scale-forming solids in the water are removed at blow-downs. Big savings in maintenance result.

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# You'll enjoy using this smart little **RIDGID** Ratchet Threader



## Die Heads lock in either side

• This 111R threader is a time-saver on pipe from  $\frac{1}{8}$ " to  $1\frac{1}{4}$ ". Click the size die head you want into the ratchet ring, from either side. No special dies needed for close-to-wall threads, just reverse the alloy steel chasers, easily removed also for regrinding. You'll like this efficient rugged little steel-and-malleable threader—ask your Supply House. We're trying our hardest to meet the big demand for

**RIDGIDS** . . . your patience is greatly appreciated.

Handy carrier with any combination of sizes.



# **RIDGID**

**WORK-SAVER PIPE TOOLS**

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

## THE WEST ON ITS WAY

ACQUIRES TUNGSTEN MINE—Don Burgner of Reno has acquired the 35-ton tungsten concentrator of the Contact Mining Co. at Toy, station on the Southern Pacific main line 14 miles southwest of Lovelock. Equipment of the Toy plant includes two sets of rolls and six concentrating tables.

MANGANESE MILL—The Manganese Ore Company, subsidiary of the M. A. Hanna Company of Cleveland, Ohio, is reported to have transferred its interests in Clark County to the Metals Reserve Company, instrument of the RFC. It had been previously operating a one thousand-ton manganese ore leaching plant which the Government ordered shut down as a high cost operation no longer needed for the war effort.

## OREGON

NEW PLANT AND EQUIPMENT—Oregon Textiles Co. will add new plant and equipment at Salem, costing \$50,000. Priorities for buildings have been granted.

PLANT MOVED—National Timber Products, Inc., will move its main plant to Eugene from Los Angeles, work starting after June 1.

NEW PLYWOOD PLANT—Approval of the War Production Board for construction of a plywood plant at Roseburg has been given the Umpqua Plywood Company which plans an expenditure of \$400,000. The Diamond Timber Co., an affiliated enterprise, has been developing the site. Among the first installations in the plant to be started will be 1800 feet of spur track to connect the plant with the Southern Pacific line. The factory buildings under the first WPB permit will provide 48,000 square feet of floor area, with 12,000 square feet to be added later.

CONSOLIDATION—The Portland Cordage Co., Portland, and the Tubbs Cordage Co., San Francisco, have consolidated. The new company operates a branch in Seattle.

STEEL FURNACE AND TANK PLANT ADDITION—W. W. Riesbraugh Co., 680 South Seventeenth Street, Salem, manufacturer of steel furnaces and tanks, is having plans prepared for a plant addition to cost about \$10,000.

## Don't Let SLIME DEPOSITS

# CLOG

## Your Air Conditioning Units!

Slime deposits often build up quickly in your air-wash type equipment . . . prevent efficient operation of the system. You can remove these troublesome deposits easily by circulating recommended solution of fast-working Oakite Composition No. 22. Slime and other accumulations are quickly, thoroughly removed from the drains, piping, spray heads, pumps.

Then, to help prevent this condition from arising again, add prescribed amount of Oakite Airefiner to recirculating water. This scientifically designed material controls slime formation . . . helps keep all lines clean and odor free. FREE booklet gives details.

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**OAKITE**



**CLEANING**

## UTAH

LEASING VANADIUM PLANT—The Vanadium Corporation of America has purchased the stockpile of the Metals Reserve Company at Monticello and has leased from the Defense Plant Corporation its facilities at Monticello.

## WASHINGTON

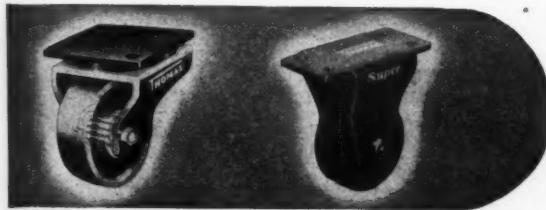
ALUMINA DEPOSIT FOUND—Large reserves of high-alumina clay have been proved at Hobart Butte, Lane County, 16 miles by road south of the railroad at Cottage Grove and about 175 and 185 miles south of the aluminum plants at Vancouver and Troutdale, respectively. It is approximately 100 miles south of the Salem plant being constructed by the Government to test the extraction of alumina from clay.

WAREHOUSE CONTRACT—A contract to construct warehouse facilities at the Boeing plant at Renton was awarded by the Seattle District United States Army Engineers to the A. F. Mowat Construction Company, and the John H. Sellen Construction Co. for \$666,723.05. Facilities will include two warehouses, railroad spur, automatic sprinkler systems, sanitary sewer system and paving.

ALUMINUM INGOT OUTPUT—A 10-million-pound monthly increase in aluminum ingot output was directed by WPB for four plants where operations previously had been curtailed. A DPC plant at Spokane is expected to provide 6 million pounds of the boost and three Aluminum Company of America mills at Massena, N.Y.; Badin, N.C., and Niagara Falls, N.Y., will provide the rest.

PAPERBOARD PLANT—Standard Carton Company has assembled machinery and has in operation a paperboard plant at 817 E. 27th Street, Tacoma. Operating 24 hours a day, it is producing 20 tons of chip board and Kraft liner board for varying types of packing boxes.

LUMBER FIRM ORGANIZED—The Tacoma Lumber Fabricating Co. has bought the plant and assets of the Henry Mill & Timber Co., taking over and operating the plant.



## THOMAS SUPER CASTERS



- Formed Steel Construction
- Two Rows of Ball Bearings
- Hardened Thrust Collar
- Hyatt Roller Bearing
- Machined Wheel Face
- Grease Gun Fittings

Use them for your hardest, toughest jobs. The Super Swivel fork is formed from one piece of  $\frac{1}{4}$ " steel plate, offset for added strength. Ball race cups and King bolt welded in place and all moving parts are hardened to move freely and resist wear. Write for new catalog No. 43.

### STOCKS CARRIED BY THESE WESTERN REPRESENTATIVES

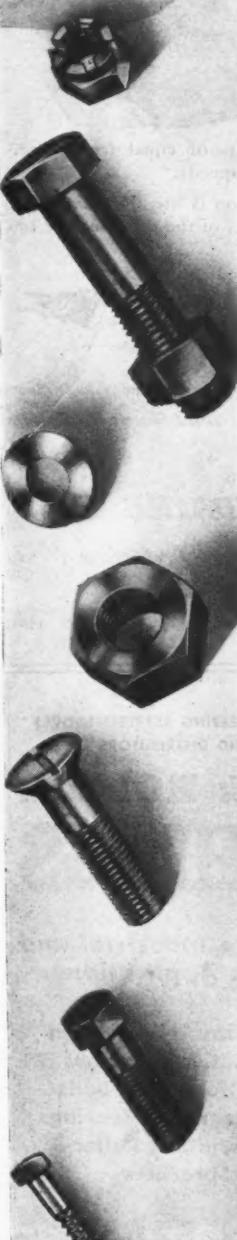
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502-1st Ave., Seattle  
L. W. Keenan  
604 N.W. 6th  
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Gen. W. Goddard Co.  
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Murray Sales Co.  
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# DEFY CORROSION at small cost



### BUILD YOUR PRODUCT WITH EVERLASTING FASTENINGS

Your product must stand up in use. In many cases it will meet the destructive forces of rust and corrosion.

Forestall trouble! Use Harper Everlasting Fastenings. They're made of either brass, naval bronze, silicon bronze, copper, Monel or stainless steel. They defy rust and corrosion . . . and do it at small cost.

To be sure . . . a bronze bolt costs more than a common steel one . . . but not much more. In most instances, constructing a machine or an instrument with non-ferrous or stainless fastenings adds only pennies to the total cost. Percentage wise, the added expenditure is negligible. But the life of the product . . . the ability to "take it" . . . the probability of freedom from trouble are increased beyond measure.

### 4360 ITEMS IN STOCK

Harper is known as "Headquarters for Non-Ferrous and Stainless Fastenings" . . . carries large and complete stocks of 4360 different items and is continually adding others. Write for 1945 Catalog.

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## More Power to You!

*Greater earnings for you too—because the new Cleveland Speedaire Worm Gear Unit gives you More Horsepower for Your Dollar!*

Speedaire offers as much as twice the capacity of standard worm units of equal frame size, when operated at usual motor speeds.

Heat generated during operation is literally *scoured off* the deeply-finned outer surfaces of the oil reservoir by a high-velocity air stream.

The new Speedaire Catalog is ready. We'll send it gladly. The Cleveland Worm & Gear Company, 3269 East 80th Street, Cleveland 4, Ohio.



San Francisco      Los Angeles      Portland      Seattle  
*Affiliate: The Farval Corporation, Centralized Systems of Lubrication*





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GURNEY-SRB-STROM

ENGINEERING REPRESENTATIVES  
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# BALL & ROLLER BEARINGS

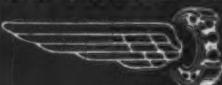
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## THE WEST ON ITS WAY

**INSTALLATION FOR NAVAL AMMUNITION**—The Navy has allocated an additional \$3,811,900 for facilities at the Bangor naval magazines, near Bremerton, to make the installation one of the nation's largest storehouses of naval ammunition. New facilities will include magazines and additional rail and highway facilities. The original project, still under construction, was to cost \$18 million, including about 25 miles of railroad from Shelton to Bangor and Bremerton, which will give the latter places their first rail connections.

**SHIPYARD CONTRACTS**—Everett Pacific Shipbuilding & Dry Dock Co. has obtained contracts for construction of two cargo barges at completion of six barracks ships now in various stages of construction. The contracts assure the yard of work until next fall, and eliminated the necessity for heavy lay-offs.

**POSTWAR PLANS**—True's Oil Co., Seattle, has plans for postwar expansion, including a 100-300 foot structure, for which a site has been bought.

## WYOMING

**COKING COAL**—A source of coking coal, a fuel needed by the Western steel industry, has been located in the Kemmerer district of Lincoln County, Wyo., the Bureau of Mines announced. This bed averages 5 inches in thickness and underlies 1,710 acres of surface in three areas and is on Government-owned land. Bureau officials said the new field can be opened by two mines at a cost of approximately \$1,400,000, and highway, railroad and water facilities would require an additional \$300,000. The mining cost per ton would amount to about \$3.10.

**SKIMMING PLANT CONTRACT**—General Petroleum Corp., Coyle, will let contract soon for a skimming plant to cost about \$825,000.

*Load it  
with barrels  
or boxes*

Curved crossbars hold heavy barrels snugly yet big boxes and bulky packages ride equally well. That's why this Fairbanks Western Pattern Barrel Truck is a versatile favorite in the warehouse or on the loading platform. With ease and speed, it rolls out a giant work-quota yet handles well in traffic.

Constructed of strong steel, and continuous wooden frame which acts as a shock absorber, Fairbanks Hand Trucks carry on in service that would break down many another type of truck. Wheels placed inside of handles make maneuvering simple and safe in narrow passageways and other confined spaces. Excellent balance assures smooth running.

For specifications on the Western Pattern Barrel Truck and other Fairbanks Trucks, write for Catalog No. 50.

**THE fairbanks COMPANY**

393 Lafayette St., New York 3, N. Y.  
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PLATFORM, HAND AND BOX TRUCKS

# Expert Machining

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MODERN MACHINERY & EQUIPMENT  
HIGHEST QUALITY WORKMANSHIP  
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YOU CAN  
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## INDUSTRIAL RUBBER PRODUCTS

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Mills—Trenton, N. J., established 1870.

**Pick-up FOR POUNDS AND PRODUCTION**

- With ElectroLift it's easy and simple. The slightest touch of the operator's finger on the button control lifts the load and directs it to the desired location. It's as simple as that.
- Strongly built, ElectroLift LIFTS loads up to 6 tons, and does its work quickly — speeding production and slicing man-hour handling costs.

**ELECTROLIFT, INC.**  
30 Church Street, New York 7, N. Y.

**ELECTROLIFT**  
WORM DRIVE HOISTS

## Here Comes the Hot Coffee



A Welder Gets  
Hot Coffee  
at His Work

Hundreds of industrial War plants serve hot coffee the "AerVoid Way" to workers at their work. Indoors, outdoors or night shift. It's all the same to "AerVoid". Coffee prepared in the plant or brought in from outside. Hot coffee anywhere in a big plant is easy with "AerVoid". . . . and a great morale-builder. Let us show you how little it costs.

WRITE FOR PRICE LIST NO. 45-AA

**Vacuum Can Company**  
25 South Hoyne Ave. Chicago 12, Ill.

"AerVoid" Vacuum Insulated Carriers for  
Storing, Transporting, Serving HOT COFFEE

**WESTERN**

# TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND  
SELL INDUSTRIAL EQUIPMENT AND MATERIALS



Harry Bald, for many years Marine Superintendent for the Kingsley Navigation Company of Vancouver and California, has joined the staff of Engineering Service, Ltd., Vancouver, B.C., as consulting engineer for Saverite Engineering Company products.

Aldon J. Anderson, previously traffic manager, has resigned as assistant to the vice-president and general manager of western operations of the U. S. Smelting Refining & Mining Co. Mr. Anderson plans to establish the Equipment Supply Company of Salt Lake.

Robert B. Soldini, for the past 22 years associated with the building material industry in Southern California, has been appointed district sales manager of the Los Angeles office of the Pacific Portland Cement Company. Mr. Soldini will have charge of sales in Southern California, Arizona and Southern Nevada, for all Pacific Portland products.

The Henszey Company, Watertown, Wis., announces that J. O. and C. U. Martin, 637 Minna Street, San Francisco, have been appointed Northern California agents for Henszey boiler plant specialties.

P. S. Omohundro and A. D. Carothers have been advanced by the Garrett Supply Co., Los Angeles. Mr. Omohundro, formerly sales manager, is now assistant to L. I. Williams, general manager. Mr. Carothers is now sales manager.

Melvin H. Hass, assistant to the president of the Adel Precision Products Corp., and S. M. Wagner, division manager of the Los Angeles division of the Ethyl Corporation, were named directors of the Lane-Wells Company. Walter T. Wells is chairman of the board. M. E. Montrose resigned as a director, vice-president and manager of services and sales and has left the company. J. D. Hughes has been made sales manager.

W. E. Graves has been appointed sales manager, Steel Improvement and Forge Co., Cleveland, and R. A. B. Williams has been appointed sales representative for California, Oregon, Washington and Arizona with headquarters in Los Angeles.

United post-war four-engine monoplane—courtesy United Air Lines.

**HAERING GLUCOSATES**

FOR CORROSION and SCALE CONTROL

WRITE FOR "H-O-H WATER STUDIES"

Gas, Air or Products Pipeline Compressors

WE READ WATER

D. W. HAERING & CO., Inc.

GENERAL OFFICES

205 West Wacker Drive, Chicago 6, Ill.



"Wireman" R. J. (Bud) Clasby, formerly assistant superintendent with the Wire Rope & Manufacturing Company, Seattle, was recently appointed assistant manager in charge of sales of the Pacific Wire Works Co. Clasby served the Wire Rope & Mfg. Co. in various capacities in shop and sales work.

Robert H. Loomis and Sherman M. Sykes, 1046 South Olive Street, Los Angeles, have been appointed field representatives for the American Photocopy Equipment Company of Chicago, Illinois. Mr. Loomis was formerly a supervisor in Labor Relations Counseling in the El Segundo plant of Douglas Aircraft Co., and Mr. Sykes was formerly assistant sales manager of the *Shipbuilding Review*.

W. E. Lee, formerly of the Los Angeles Application Engineering Department, has been transferred to the Phoenix office of the Westinghouse Electric & Mfg. Co. as application engineer and will make his home in Phoenix.

Milton W. Allen has been named sales representative in Colorado, Montana, New Mexico, Utah and Wyoming for Columbus McKinnon Chain Corp., Tonawanda, N. Y.

Dave Smith has joined the staff of Western Gear Works, Seattle, Wash., as engineer. He will be at the oilfield division headquarters at the Lynwood plant.

Pacific Engineering Corporation has transferred its sales division from the plant at 313 San Fernando Road, Los Angeles, to suite 1100, Equitable Building, Hollywood and Vine.

## The SMALL hoist with the BIG hoist features

The Titan is a compact, lightweight, electric hoist; easily installed, simple to operate. It is inexpensive to buy, costs practically nothing to operate, handles loads up to 750 pounds; is fast and makes handling safer for both men and materials.

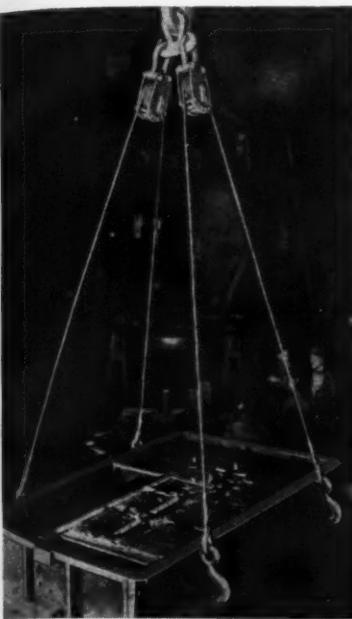
Ask For further information on this time saver and production increaser; also for Titan Bulletin 801.



# THE SHOWCASE

201

**"Level-Lift" Slings**—Formerly made only in 3 ton and 6 ton capacities, Level-Lift slings are made in  $\frac{3}{4}$  ton,  $1\frac{1}{2}$  ton, 3 ton, and 6 ton capacities. This sling operates as follows: After the light-weight block containing wire rope is put on the crane hook, the crane operator spots the crane hook over the approximate center of gravity of the load and the floormen attach the sling to the load. The crane operator then ap-



pplies the power to lift the load, and as the crane hook is lifted, the rope automatically adjusts itself through the Level-Lift block. In so doing, one sling leg of rope becomes longer than the other, and as the weight of the load pulls on the wire rope, the sheave in the block pulls down against a brake which prevents slippage. The load is then lifted level. The illustration shows a pair of slings handling a foundry flask. *Macwhye Company, Kenosha, Wis.*

202

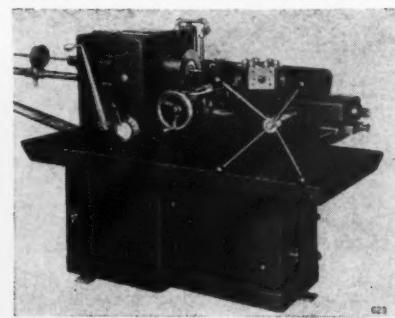
**Switch Copper**—A specially prepared switch copper that eliminates hand-finishing of the metal before assembly and effects a great reduction in the rejections of the finished product has been recently developed. Manufactured by a process, the new copper has a superior polish which means lower losses at contact points of switches, knife blade fuses and exposed bus bars. The new metal, cut to length, drilled and assembled by the equipment manufacturer has close tolerances that include no convexity for flatness is measured across the width of the bar; concavity .001 in. maximum per side up to 2 in.; .002 in. per side, 2 in. and over; camber, or depth of 1 lengthwise arc,  $\frac{1}{8}$  in. maximum in 8 feet. Comes in square or round edges. *Revere Copper and Brass, Inc., New York.*

203

**High-Vacuum Rectifier**—A new high-vacuum, half-wave rectifier tube number TR-40M is 9 $\frac{7}{8}$  inches high with a maximum diameter of 3 $\frac{13}{32}$  inches. It is equipped with a 4-pin jumbo (50-watt) base and the glass is Nonex. The filament is thoriated tungsten, assuring long life and trouble-free service. Plate lead is at the top and filament leads are brought out to pins Nos. 2 and 4. *Taylor Tubes, Inc., Chicago, Ill.*

204

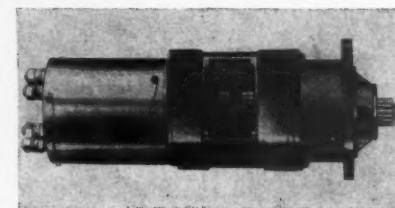
**Lathe**—Known as No. 601 "Rapiduct," this machine is developed to meet a wider range of conditions than formerly. New 4-speed motor permits four speed changes without change of sheaves. The motor is mounted on oil-resistant rubber to insure smooth, quiet operation, cool-



ant pump has its own  $\frac{1}{8}$  h.p. motor to provide uniform lubrication independent of spindle speeds, and new electrical controls have speed selector switch located conveniently for operator. Automatically indexed, six-position turret is optional with plain saddle. *Oster Mfg. Co., Cleveland, O.*

205

**Wing Flap Drive Unit**—Designed specifically for wing flap actuation on the Army's newest and fastest attack bomber, the Douglas A-26, custom built throughout for special operating, mounting and maintenance conditions, this new motor unit is intermittent duty type, 2 h.p., 7500 rpm, is equipped with magnetic clutch and



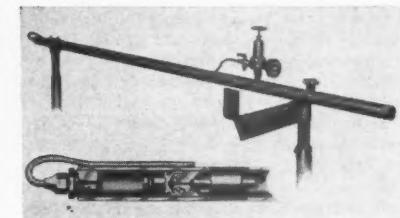
brake, thermally protected, and designed for low impact torque to prevent damage in the event of overtravel resulting from failure of electrical stops. *Electrical Engineering & Mfg. Corp., Los Angeles, Calif.*

206

**Portable Pyrometer**—Particularly adapted to reading the temperature of molten metals (exclusive of ferrous metals), hot air or liquids and for hot surfaces, if used with the probe type thermocouple, this new portable pyrometer, weighing only  $1\frac{3}{4}$  pounds, is announced. The body design elevates the scale to an angle that offers maximum reading ease in all working positions and also minimizes side reflections on the scale glass. *K. H. Huppert Company, Chicago, Ill.*

207

**Bar Feed**—Made in seven sizes to take bar stock from 6 foot to 11 foot lengths, the Newton bar feed is a complete unit ready for use, including stands, seamless tube, pressure regulator and piston. The airline connects to the pressure regulator, which delivers the desired pressure to the far end of the stock tube and actuates



the piston which pushes the stock into the lathe and against the stock stop under uniform pressure. Length rejections caused by the variations of pressure inherent in mechanical and hand-feeding of stock are thus eliminated. Noiseless stock feeding, a small amount of line pressure necessary, simple operation, are outstanding features of this product. *Newton Mfg. Co., Los Angeles, Calif.*

208

**Centrifugal Pump**—27 different sizes and types of centrifugal pumps designated as "Logan" Sure-Flow pumps, designed especially for pumping coolants and cutting oils and adaptable for circulating cooling liquids pumping or circulating water or quenching oil and general liquid transfer service are announced by Logansport Machine Co., Inc. One of the features of these pumps is the open impeller, eliminating the need for close clearances or metal-to-metal contact of running parts and, thus, allows pumping of liquids containing some abrasives, filings and other foreign matter without damage to the pump. *Logansport Machine Co., Inc., Logansport, Indiana.*



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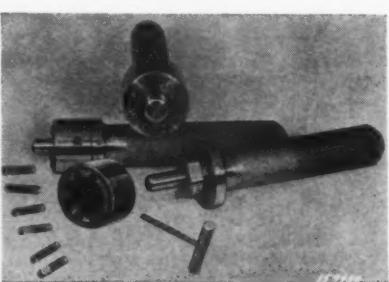
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**Counting and Measuring Devices**—A new "HF" series, superseding the former "F" model, is announced as a new design of Productimeter bottle and can counter. The most notable improvement is the use of the popular "H" type counter with its many distinctive features: modern, oilless bearings; engineered accuracy; curved, louvered window for quick reading of figures; strong, molded plastic number wheels; legible black figures on contrasting white background; heavy die-cast base with dust-tight metal cover; rust-proof construction; strong steel stamping mounting plate. The new "HF" series is available in either 5 or 6 figures capacity, counting to 99,999 or 999,999, and equipped with a 6 pt. star wheel for counting bottles, and a 4-point star wheel for cans. *Durant Manufacturing Co., Milwaukee, Wisc.*

210

**Motor Selector Guide**—An interesting and helpful booklet has just been published which provides design engineers and production executives with an easy, step-by-step method for selecting correct type and size of fractional horsepower motor for any application. Its data is presented in outline style, highly illustrated and exceptionally complete. It gives, at a glance, the comparative characteristics of the various types—tells how to decide on horsepower, duty cycle and speed. In addition, it explains many "built-in" controls which are desirable for certain applications. Such other vital factors as the different kinds of operating conditions are high-spotted to insure consideration. Also includes questionnaire form specially prepared as an aid for initiating the design and development work so essential to the powering of new products. *Bethel and Waldie and Briggs, Chicago, Ill.*

**Hand Stamping Device**—The New Method Steel Stamps Inc., have developed a new hand stamping device for annular marking which provides for the changing of a single character. As shown in the illustration, the locking device above the pilot of the type holder has a flat ground on its circumference. The type retainer carries indexing marks facilitating the unloading and loading of steel type. When changing a character, the corresponding index mark on the



type retainer should be registered with the zero mark on the anvil, allowing the character to drop out of the drilled hole and another one inserted. This is accomplished by the flats on the round shanks of the type mating with the flat on the locking device. When the indexing mark on the anvil coincides with the mark at the tapped hole in the type retainer, the entire assembly can be locked in place with a single set screw. *New Method Steel Stamps, Inc., Detroit, Mich.*

**Auxiliary Dolly**—A dolly made by welding flame-cut parts of standard flat rolled shapes, mounted on casters, for handling long loads such as landing mat strips, solves the problem for handling loads of such length where aisles are not long enough to permit carrying lengthwise and the standard platform is not long enough to permit carrying lengthwise and have a well-balanced load. A steel fitting bolted to the forward end of an Elwell-Parker power truck platform provides for a pin connection between the base frame and the truck. The truck lifts only one end of the dolly and can either push or pull the load through narrow aisles and around corners with ease and safety. *The Elwell-Parker Electric Company, Cleveland, Ohio.*

213

**Paving Treatment**—Fourteen types of paving treatment are described in a new 16-page brochure, "Surfacing with Tarmac," just issued. Advantages of each type of treatment are discussed together with methods of application and tables showing Tarmac and standard road surface designations, applications, temperatures and uses as well as recommended aggregate gradation. Among the methods discussed is the soil stabilized base course which is used where there is a scarcity of suitable aggregate for standard types of construction and when the cost of importing aggregate is excessive. Road repairs are given considerable attention in the booklet due to the large amount of this work that must be done as the result of wartime restrictions and lack of manpower. Discussed are: prime coating, drag leveling course, mulch treatment, E-Z mix, road mixes, retreatments and seal coats, penetration macadam and hot-lay tar concrete. *Koppers Co., Inc., Tar and Chemical Div., Pittsburgh, Pa.*

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1719

**Rotary Positive Displacement Blowers**—The principle of operation and the design and construction features of Pottstown rotary positive displacement type blowers and exhausters are pictured and described in a new 16-page booklet. Sectional drawings and views of parts showing the design and construction of these units, also photographs of the many types of drive and arrangement which are available are included, also tables of capacity for both blowers and exhausters and technical data. *Pottstown Blower Co., Division of Allen Billmyre Co., Mamaroneck, N. Y.*

1720

**Western Transmissions**—"As many as 500 in a plant," is the title of the new 6-page catalog describing three models of Western transmissions for motorizing various cone-driven machine tools, just released by Western Manufacturing Company, illustrating how Multi-Motor-Mount makes practical the adaptation of two models of Western transmissions, a "Master" (capacity 1/5 h.p.) and a "Major" (capacity 5/10 h.p.) to most any cone-driven machine tool. Thirty-six different installations are pictured, including lathes, shapers, milling machines, automatic slotters, vertical and horizontal boring mills, etc. *Western Manufacturing Co., Detroit, Mich.*

1721

**Plastic Tooling**—Lockheed has just published a 51-page booklet designed for use by tooling experts and engineers by a member of their research department. *Lockheed, Burbank, Calif.*

1722

**Lift Trucks**—A new series of catalogs for the complete line of Hyster pneumatic tire lift trucks, featuring action pictures and actual work applications as well as mechanical specifications, is published. Hyster fork type lift trucks are manufactured with capacities from 2,000 to 15,000 pounds. The straddle truck line has a load limit of 30,000 pounds. All Hyster lift trucks are gasoline powered and use pneumatic tires. *Hyster Company, Portland, Oregon.*

1723

**Lighting Product**—A new lighting products booklet containing information for industrial and commercial users of lighting is available from Sylvania Electric Products, Inc. The booklet contains comprehensive information about industrial, commercial, portable and inspection type of fluorescent fixtures; fluorescent lamps, starters and lamp holders. Incandescent types listed include daylight lamps, large wattage lamps, vibration and rough service lamps, 3-light lamps, floodlight and spotlight lamps, tubular lamps, lumline lamps, sign and decorative lamps, and those for 6, 12 and 30 volt service. *Sylvania Electric Products Inc., Salem, Mass.*

1724

**New Bulletin**—The Chain Belt Company announces a new bulletin, No. 462, describing Red apron and pan feeders and conveyors and containing design details, cross sections, capacity tables and specifications tabulated for quick comparison. *The Chain Belt Co., Milwaukee, Wisconsin.*

1725

**Airblast Equipment**—A new illustrated catalogue is out by American Foundry Equipment Co., describing its complete line of Airblast equipment, which includes rooms, cabinets, tanks, suction guns, nozzles, and accessories. *American Foundry Equipment Co., Mishawaka, Indiana.*

1726

**Telephone Systems**—Kellogg Switchboard & Supply Co. advertise a new bulletin giving detailed description and illustration of their simplified private automatic exchange telephone system called the "Pax" system. *Kellogg Switchboard & Supply Co., Chicago, Illinois.*

1727

**Steam Power Plant Planning Guide**—Planning information on 10,000 to 60,000 kw. condensing turbines, surface condensers and auxiliaries, for building a new plant or adding generator capacity to an existing one, is presented in a 40-page booklet. Part 1 illustrates types of turbines, and charts, turbine sizes and speeds. Part 2 on performance data covers basic operating conditions, including effect of deviation in pressures and temperatures on heat rates; regenerative feed-water heating; recommended condenser sizes, and condenser dimensions; condenser friction; impeller, propeller and axial type circulating pumps; and condensate pumps. Data is presented in chart and table form for easy selection. *Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.*

1728

**Detecto Scales**—To help bridge the transition period until full peacetime organization of manufacturing can be realized, Detecto Scales, Inc., has issued a "Transition Catalog" listing complete line and also scales converted to meet war-time requirements. *Detecto Scales, Inc., Brooklyn, N. Y.*

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(From Pg. 89)

1729

**Test Equipment Catalog**—A new bulletin F issued by the Shallcross Manufacturing Co., Collingdale, Pa., describes several forms of high-voltage test equipment, including portable kilovoltmeters suitable for use from 1 to 30 kilovolts as well as the well-known Shallcross Corona protected kilovoltmeters for measurements up to 200 kilovolts. Separate kilovoltmeter multipliers are available for use with external meters for measurements from 1 to 30 kilovolts; Corona protected resistors are available separately for use with suitable meters to permit measurements of potentials up to 200 kilovolts. *Shallcross Mfg. Co., Collingdale, Pa.*

1730

**Flaring Machine**—A new bulletin is announced describing a new machine for double flaring or lapping of tubing. *Leonard Products Co., Garden Grove, Calif.*

1731

**Electronic Products**—A new 8-page condensed catalog has been issued by *North American Phillips Company, Inc., New York*.

1732

**Excavation**—"In War and Peace" is the title of a new booklet containing photographs of dozers, scrapers, dozershovels and other tractor equipment in action on both war and home fronts. *Bucyrus-Erie Co., South Milwaukee, Wis.*

1733

**Ovens and Oil Burners**—Two new catalogs are advertised by the W. S. Rockwell Company, one describing Gehring ovens, the other Rockwell oil burners. *W. S. Rockwell Co., New York, N. Y.*

1734

**Isothermal Heat Treating**—A reprint of a technical article on the application of Isothermal heat treating of pistol parts has been issued by *Ajax Electric Co., Inc., Philadelphia, Pa.*

1735

**Paper Dielectric Capacitor**—A 56-page illustrated catalog just issued and designed to serve as a complete guide to the selection of paper dielectric capacitor for practically every industrial use and containing notes on capacitor selection and use to meet the demands of the armed services has been announced. Included in the catalog are full details and dimensions for Sprague cardboard and metal tubular types, bathtub types, large and small rectangular units, cylindrical container units, hermetically sealed types, ignition capacitors, screw-mounted types, radio interference suppression filters, etc. Also included are details on Sprague energy storage capacitors for welding, flash-photography and similar uses; the Vitamin Q capacitors for high temperature uses, including the hermetically sealed units in glass tubes; and the glass-to-metal seals for many types of capacitors and Koolohm resistors. *The Sprague Electric Co., North Adams, Mass.*

1736

**Hydraulic Circuits**—John S. Barnes Corporation announces new 28-page booklet describing hydraulic circuits for industrial equipment. *John S. Barnes Corp., Rockford, Ill.*

1737

**Spindle Machine**—Describing a multi-purpose machine, ideal for precision work demanding smooth finish, including wood and metal templates, the Kindt-Collins Company have printed a four-page folder. *The Kindt-Collins Company, Cleveland, Ohio.*

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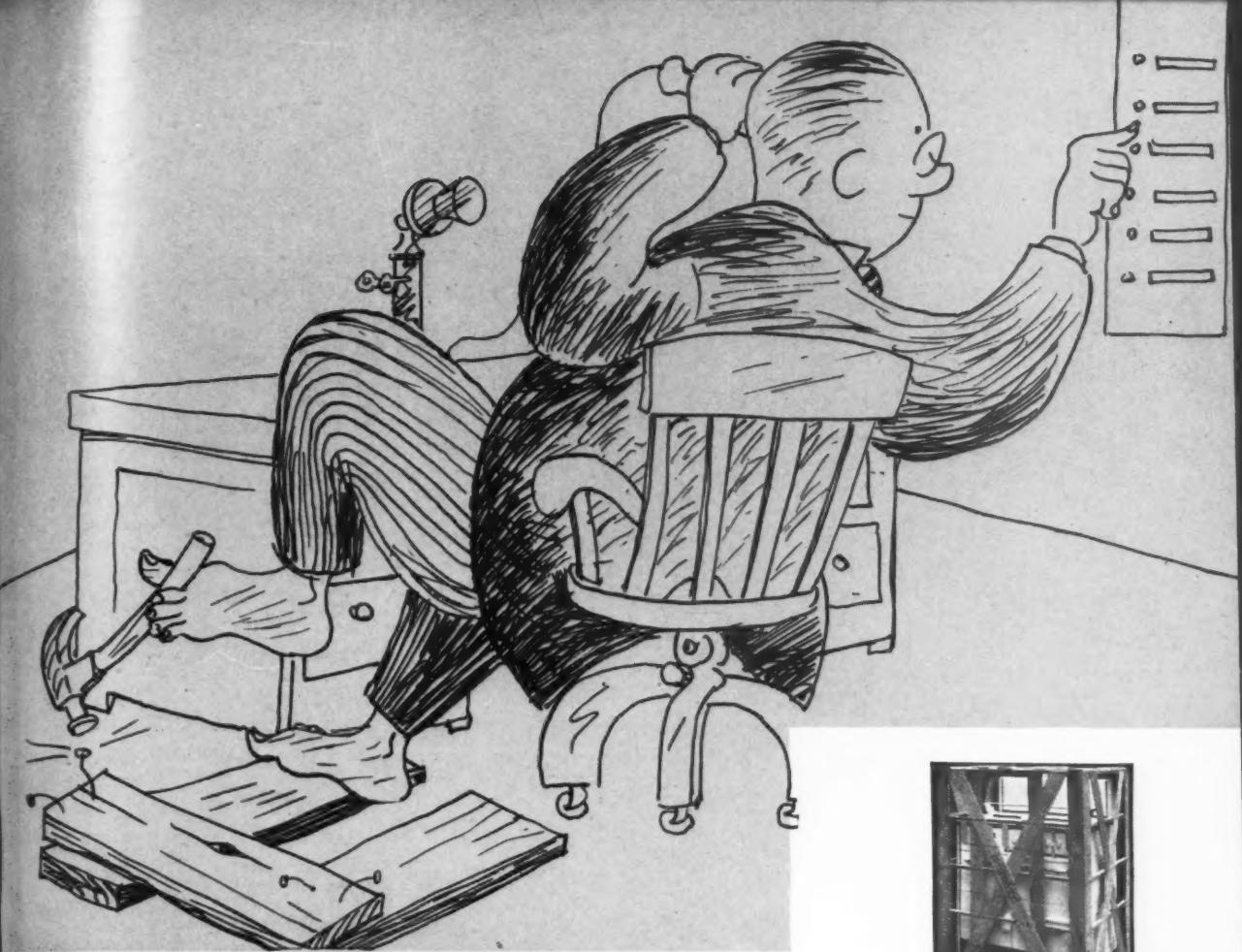
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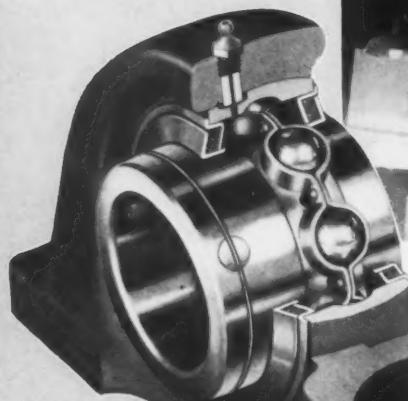
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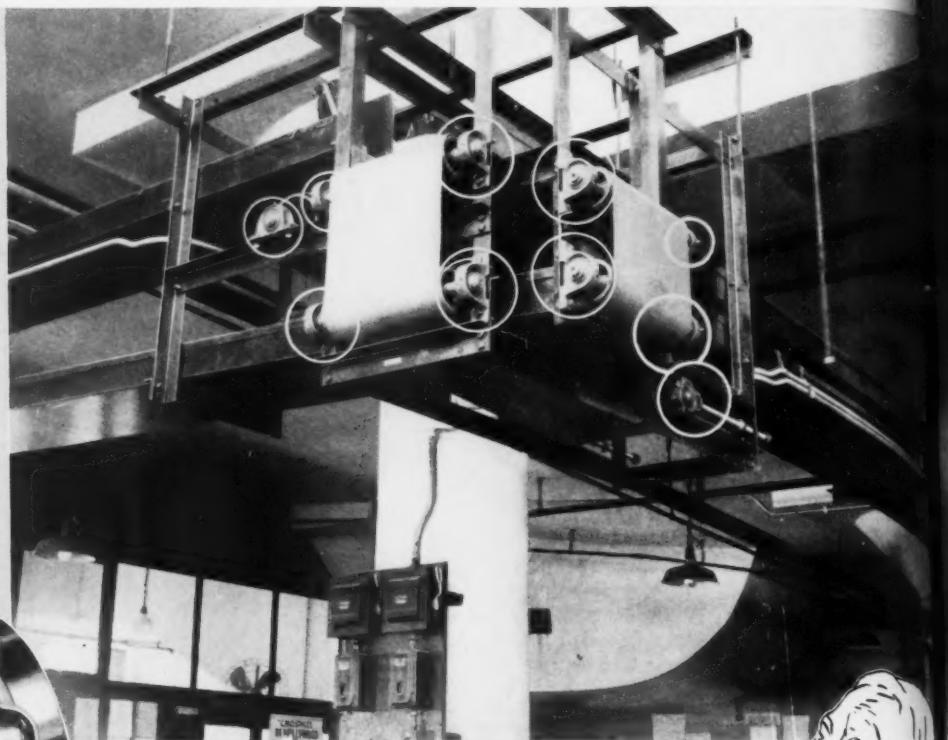
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